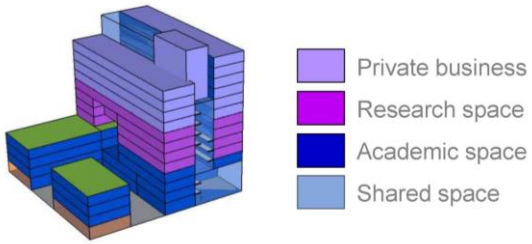
The Machine in the City: Lessons for Bogota and the US

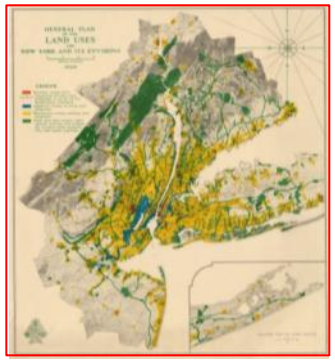
Camara de Comercio de Bogota

October 5, 2015



Robert Lane
Senior Fellow for Urban Design
Regional Plan Association

Urban manufacturing: Intersection of the global and the hyper-local



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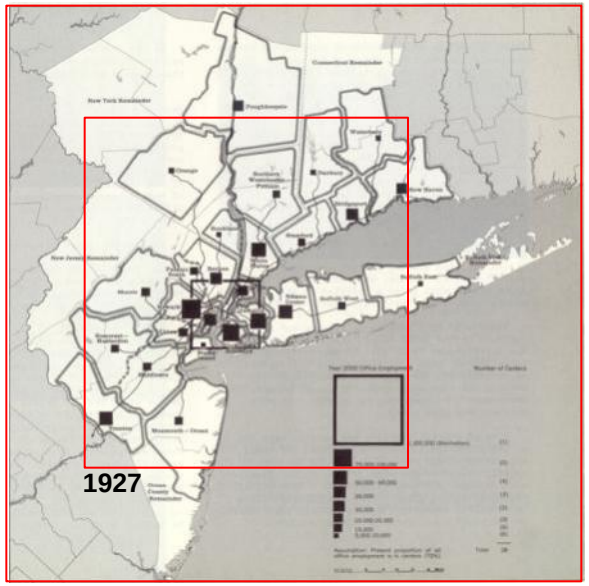

1927

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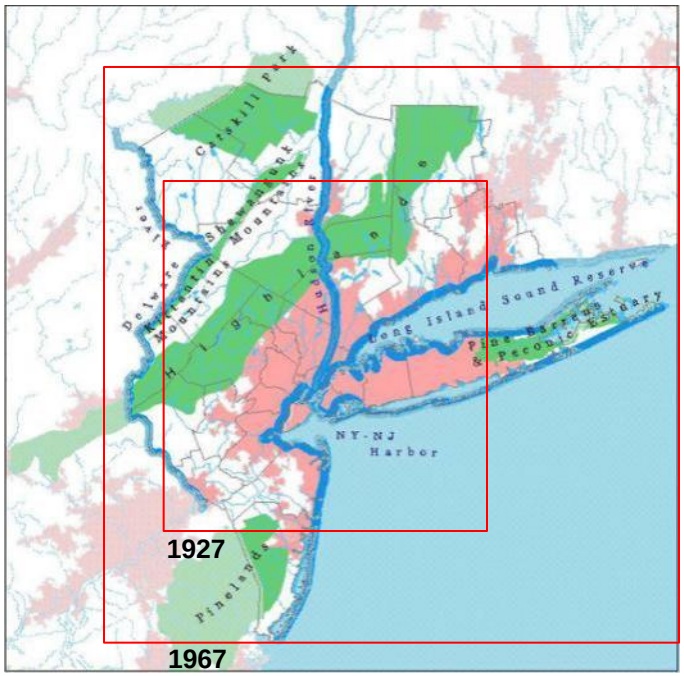

1927

1967

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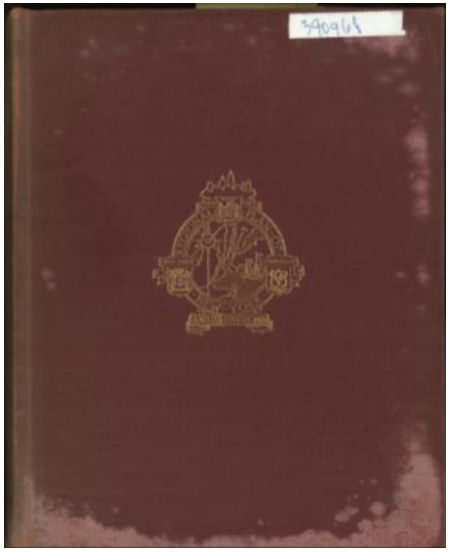
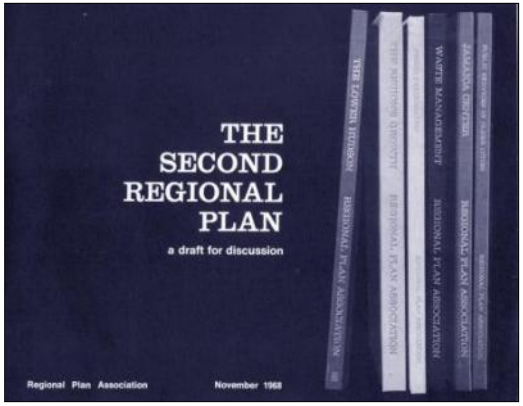
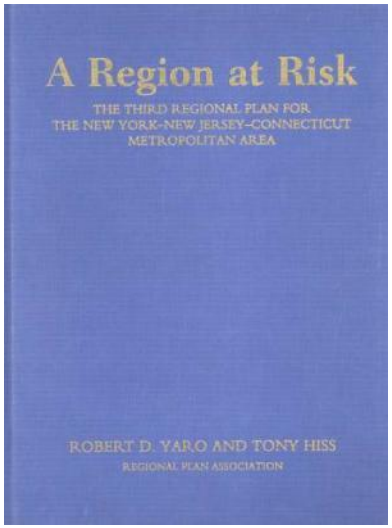






Urban manufacturing in Bogota and the United States: Economy and Policy

Similarities:

- Both Bogota and American cities are still wrestling with the implications of the changing nature of urban manufacturing: technology and the "maker movement"
- Both Bogota and American cities are trying to understand how to build the ecology of the urban "factory neighborhood"

Differences

- Bogota's manufacturing districts are not (yet) subject to displacement so it is not yet facing the ultimate dilemma: integration versus protection
- Bogota has a legacy of managing land use at a much finer grain than in the US

Urban manufacturing in Bogota and the United States: Urban Form

Similarities

- Urban manufacturing districts in both Bogota and N. America are predominantly low-rise.
- Streets in urban manufacturing districts are not well designed: Goods movement conflicts.
- Open spaces are scarce and poorly defined.

Differences

- The low-rise manufacturing districts in Bogota are more “urban”: higher coverage and more transparency.
- Bogota does not have a legacy of managing the high-density loft factory

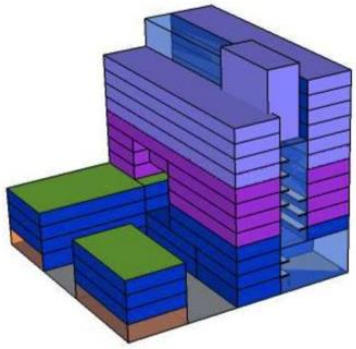
Bogota

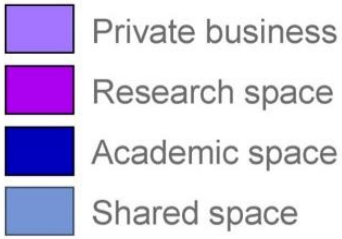
Portland, OR

Urban manufacturing in Bogota and the United States: Questions

Questions:

- What is an “Innovation District”: Vertical versus horizontal mixed use
- What urban design strategies can encourage new forms of mixed-use
- What strategies can be used to manage the ecology of the factory neighborhood

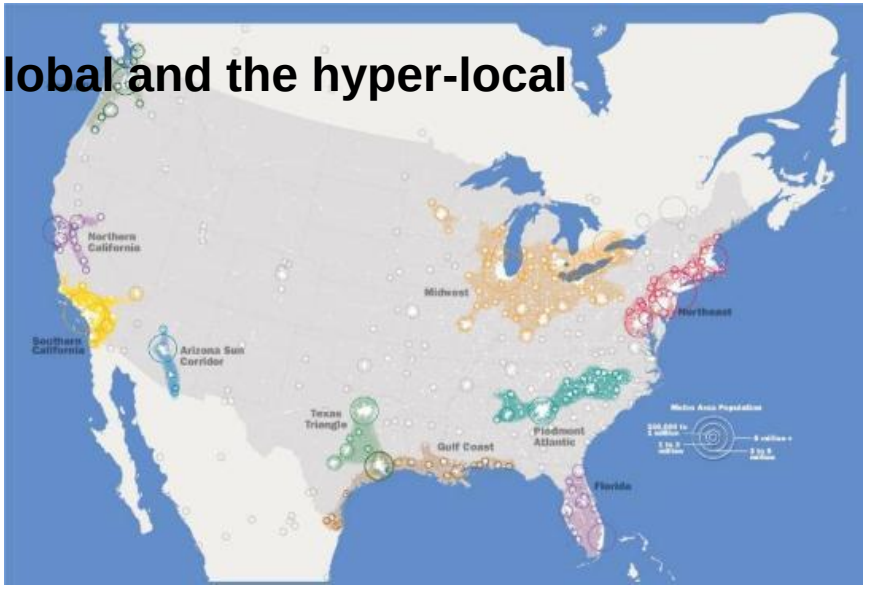




Urban manufacturing: Intersection of the global and the hyper-local

1927

2007



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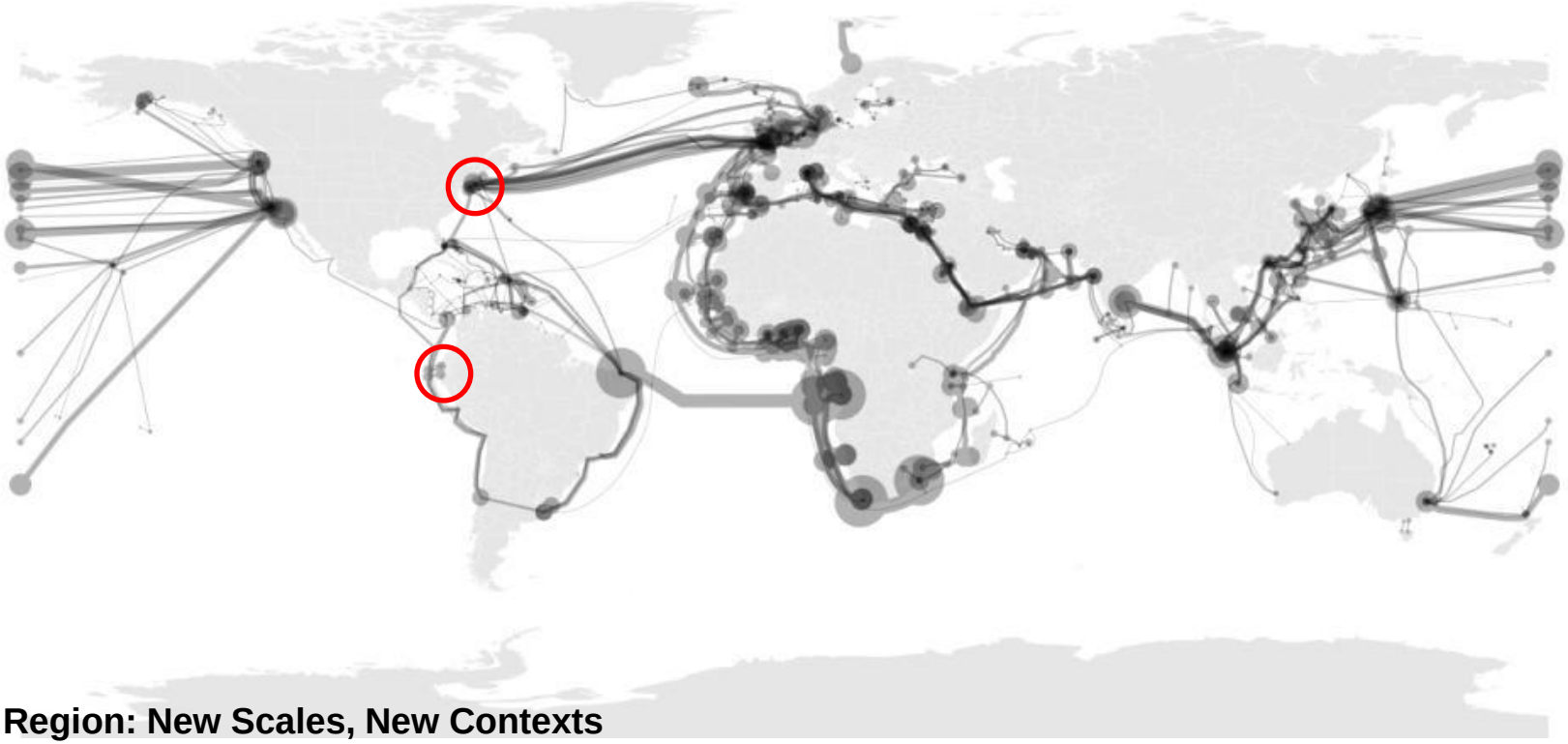
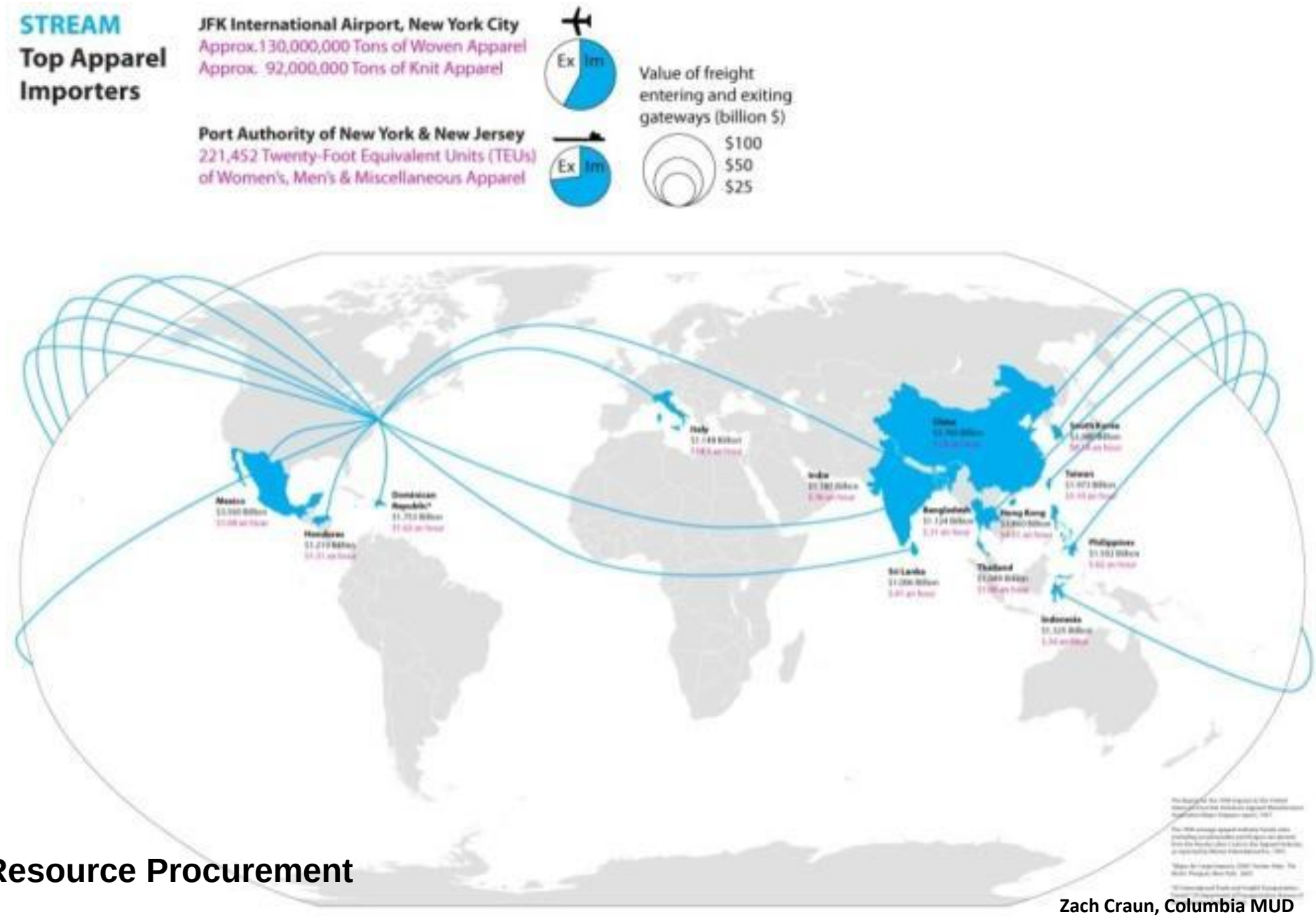


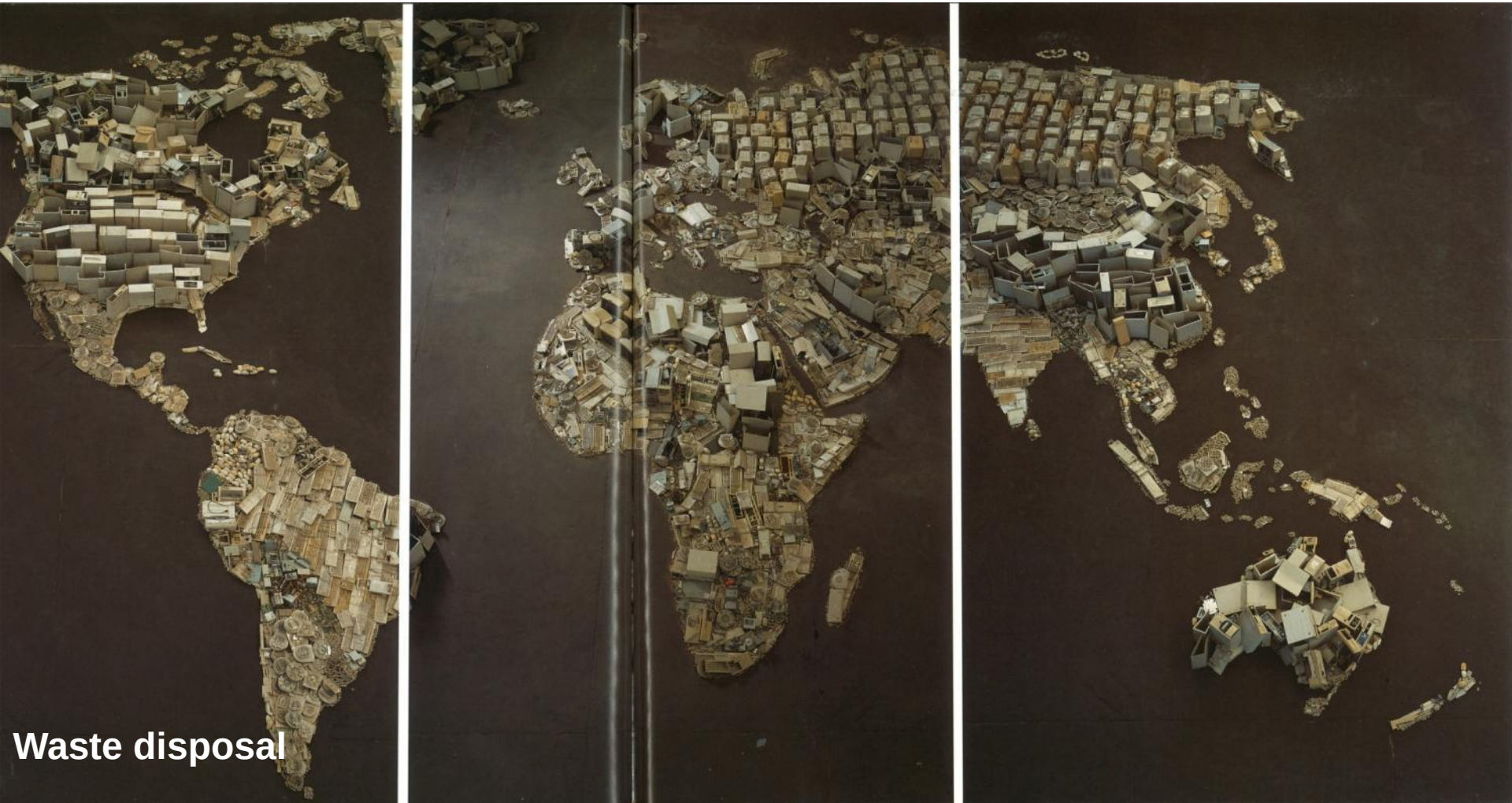
Urban manufacturing: Intersection of the global and the hyper-local



Resource Procurement

Urban manufacturing: Intersection of the global and the hyper-local

The “Junk Map”



Urban manufacturing: Intersection of the global and the hyper-local

"All the News That's Fit to Print"

The New York Times

New England Edition
Today, plenty of sun, moderately warm, high 83. Tonight, mostly clear, low 64. Tomorrow, sunshine with some clouds, a gentle breeze, high 80. Weather map, Page B7.

VOL. CLXI . . . . No. 55,873 © 2012 The New York Times FRIDAY, AUGUST 24, 2012 $2.50

NEWS ANALYSIS

Giving Reins To the States Over Drilling

Romney Makes Play For Votes in the West

By ERIC LIPTON and CLIFFORD KRAUSS

By proposing to end a century of federal control over oil and gas drilling and coal mining on government lands, Mitt Romney is making a bid for anti-Washington voters in key Western states while dangling the promise of a big reward to major campaign supporters from the energy industry.

Mr. Romney's plan, which would turn over decision-making on drilling and mining to the states, echoes the "Drill, baby, drill" strategy that another Republican presidential candidate, John McCain, used to great effect in the 2008 campaign.

The federal government owns vast portions of states like New

JUSTIN MOTT FOR THE NEW YORK TIMES

Workers at a garment factory in Dhaka, the capital of Bangladesh, which produces shirts and sweaters for global export.

Export Powerhouse Feels Pangs of Labor Strife

By JIM YARDLEY

ISHWARDI, Bangladesh — The air thickened with tear gas as police and paramilitary officers jogged into the Ishwardi Export Processing Zone firing rubber bullets and swinging cane poles. Panicked factory workers tried to flee. A seamstress crumpled to the ground, knocked unconscious by a shot in the head.

Dozens of people were bloodied and hospitalized. The officers were cracking down on protests at two garment factories inside this industrial area in western Bangladesh. But they were also protecting two ingredients of a manufacturing formula that has quietly made Bangladesh a leading destination for foreign investment.

MADE IN BANGLADESH
Policing the Garment Industry

Both were at stake on that March morning. Workers earning as little as $50 a month, less than the cost of one of the knit sweaters they stitched for European stores, were furious over a cut in wages. Their anger was directed at the Hong Kong and Chinese bosses of the two factories, turning a labor dispute into something potentially much larger.

"If any foreigner got injured or killed, it would damage the country's image around the globe," said a police supervisor, Akbar

portance of these factories and this industry for Bangladesh."

Bangladesh, once poor and irrelevant to the global economy, is now an export powerhouse, second only to China in global apparel exports, as factories churn out clothing for brands like Tommy Hilfiger, Gap, Calvin Klein and H&M. Global retailers like Target and Walmart now operate sourcing offices in Dhaka, the capital. Garments are critical to Bangladesh's economy, accounting for 80 percent of manufacturing exports and more than three million jobs.

But with "Made in Bangladesh" labels now commonplace in American stores, Bangladesh's manufacturing formula depends

Signs That Iran Is Speeding Up Nuclear Work

By DAVID E. SANGER

WASHINGTON — International nuclear inspectors will soon report that Iran has installed hundreds of new centrifuges in recent months and may also be speeding up production of nuclear fuel while negotiations with the United States and its allies have ground to a near halt, according to diplomats and experts briefed on the findings.

Almost all of the new equipment is being installed in a deep underground site on a military

CHINA CONFRONTS MOUNTING PILES OF UNSOLD GOODS

A DRAG ON ITS ECONOMY

Exports Slow, but Not Factories — Problem Masked in Data

By KEITH BRADSHER

GUANGZHOU, China — After three decades of torrid growth, China is encountering an unfamiliar problem with its newly struggling economy: a huge buildup of unsold goods that is cluttering shop floors, clogging car dealerships and filling factory warehouses.

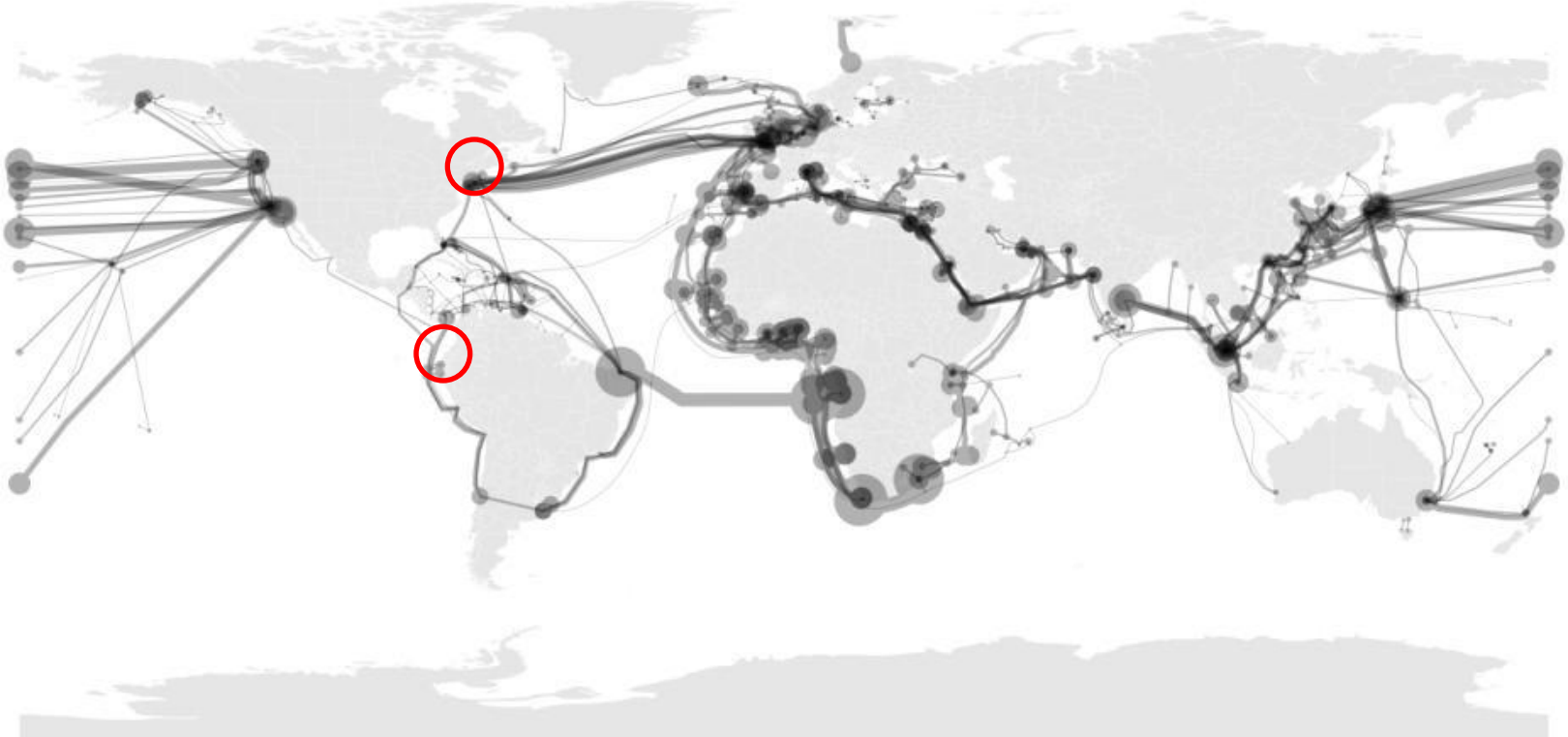
The glut of everything from steel and household appliances to cars and apartments is hampering China's efforts to emerge from a sharp economic slowdown. It has also produced a series of price wars and has led manufacturers to redouble efforts to export what they cannot sell at home.

The severity of China's inventory overhang has been carefully masked by the blocking or adjusting of economic data by the Chinese government — all part of an effort to prop up confidence in the economy among business managers and investors.

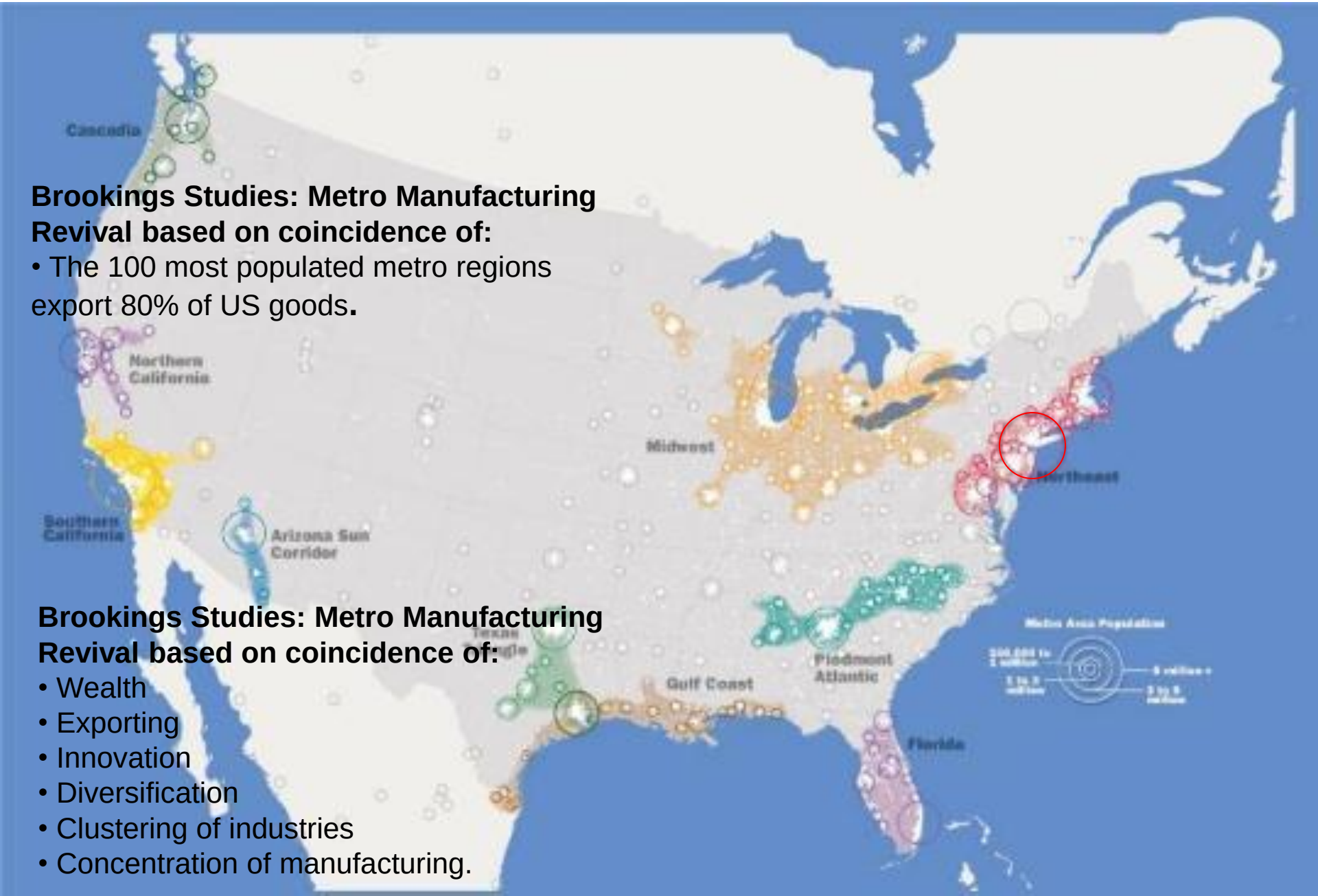
But the main nongovernment survey of manufacturers in China showed on Thursday that inventories of finished goods rose much faster in August than in any month since the survey began in April 2004. The previous record for rising inventories, according to the HSBC/Markit survey, had been set in June. May and July also showed increases.

"Across the manufacturing industries we look at, people were expecting more sales over the summer, and it just didn't happen," said Anne Stevenson-Yang, the research director for J Capital

Urban manufacturing: Intersection of the global and the hyper-local



From the Global to the hyper-local: the "Mega-regions"



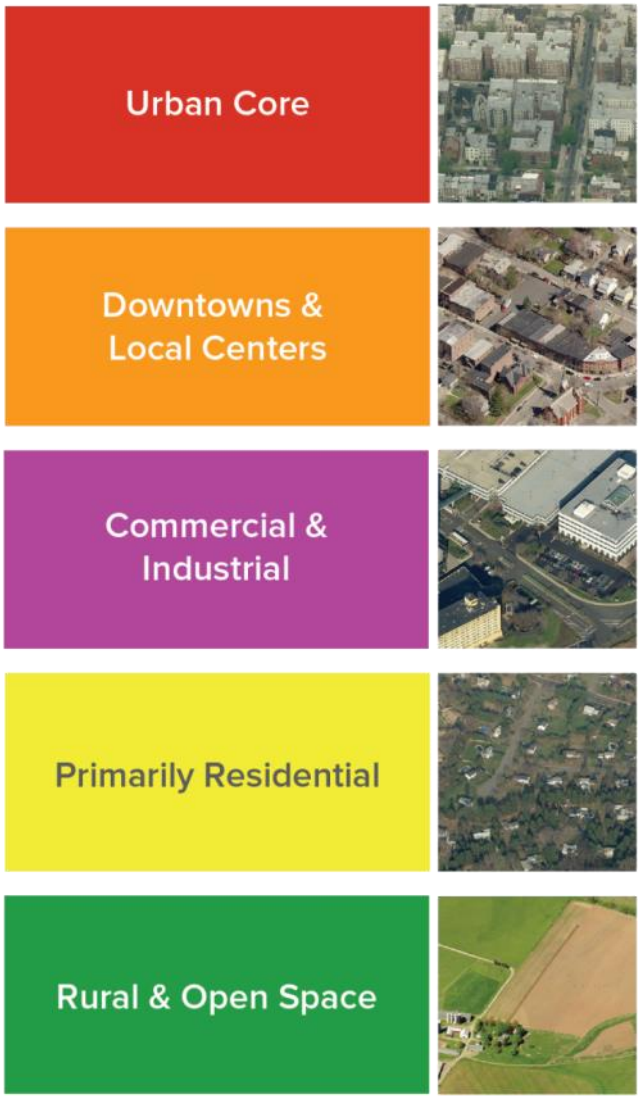
Brookings Studies: Metro Manufacturing Revival based on coincidence of:

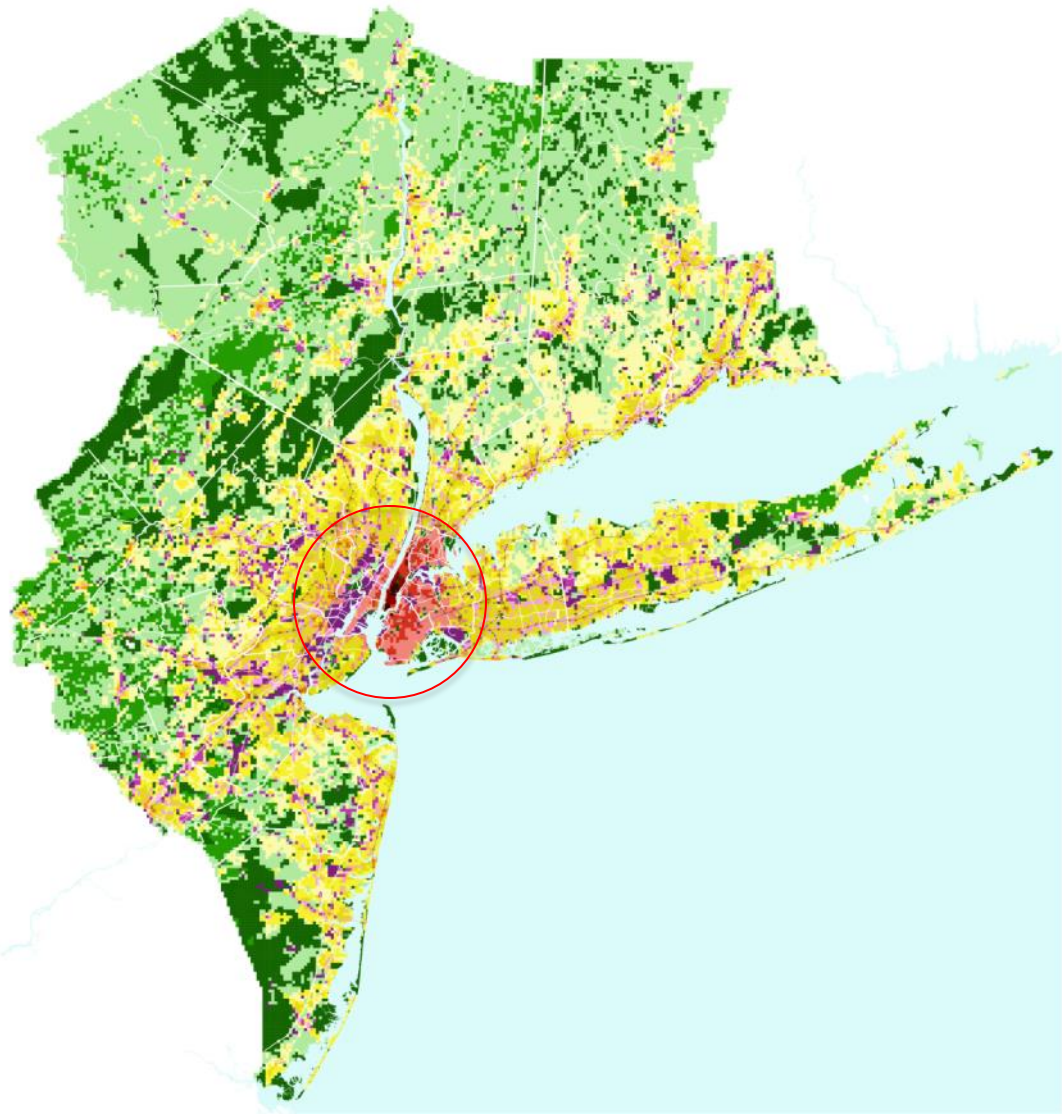
• The 100 most populated metro regions export 80% of US goods**.**

Brookings Studies: Metro Manufacturing Revival based on coincidence of:

• Wealth
• Exporting
• Innovation
• Diversification
• Clustering of industries
• Concentration of manufacturing.

From the Global to the hyper-local: the the NY metropolitan region





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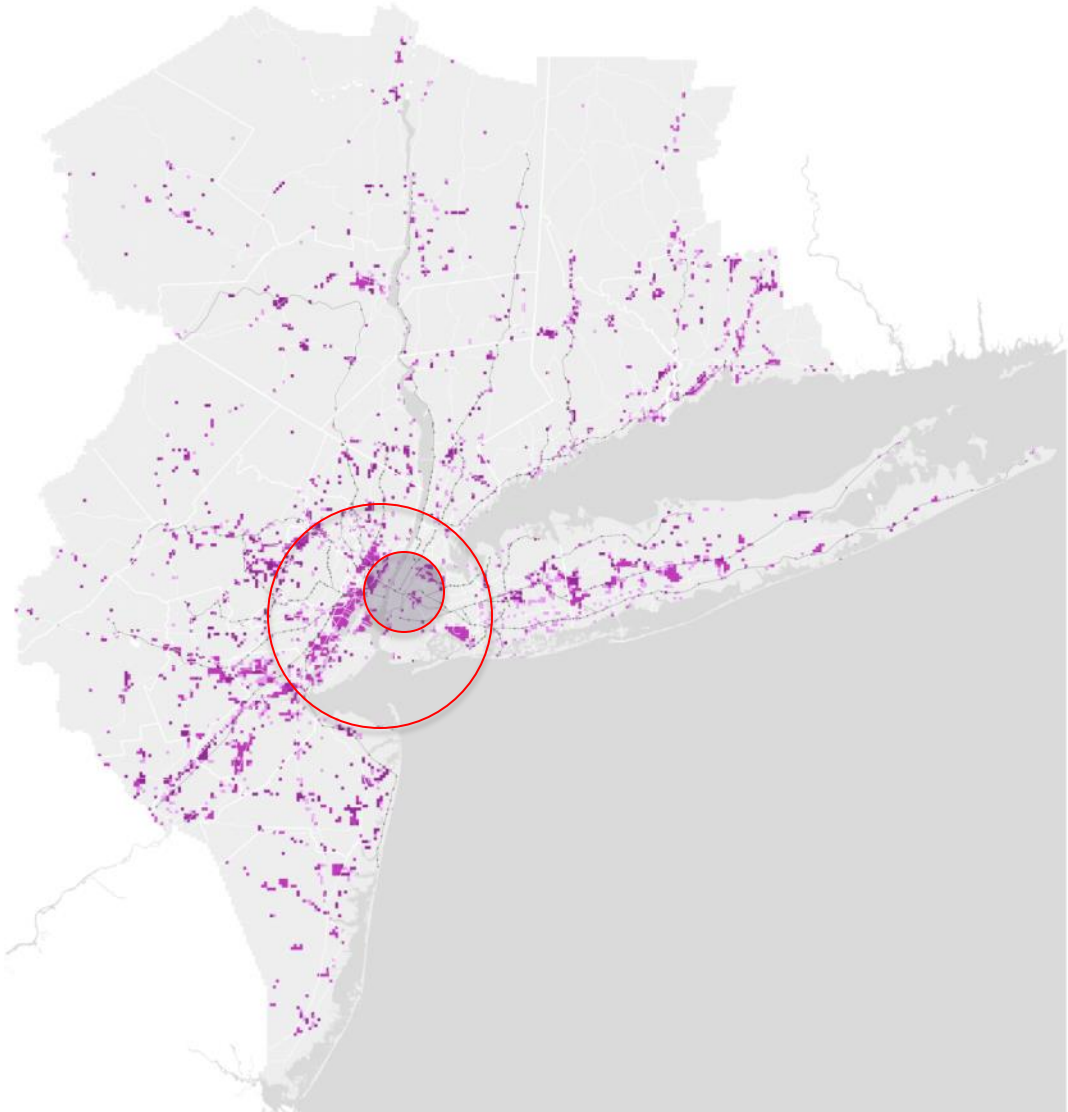
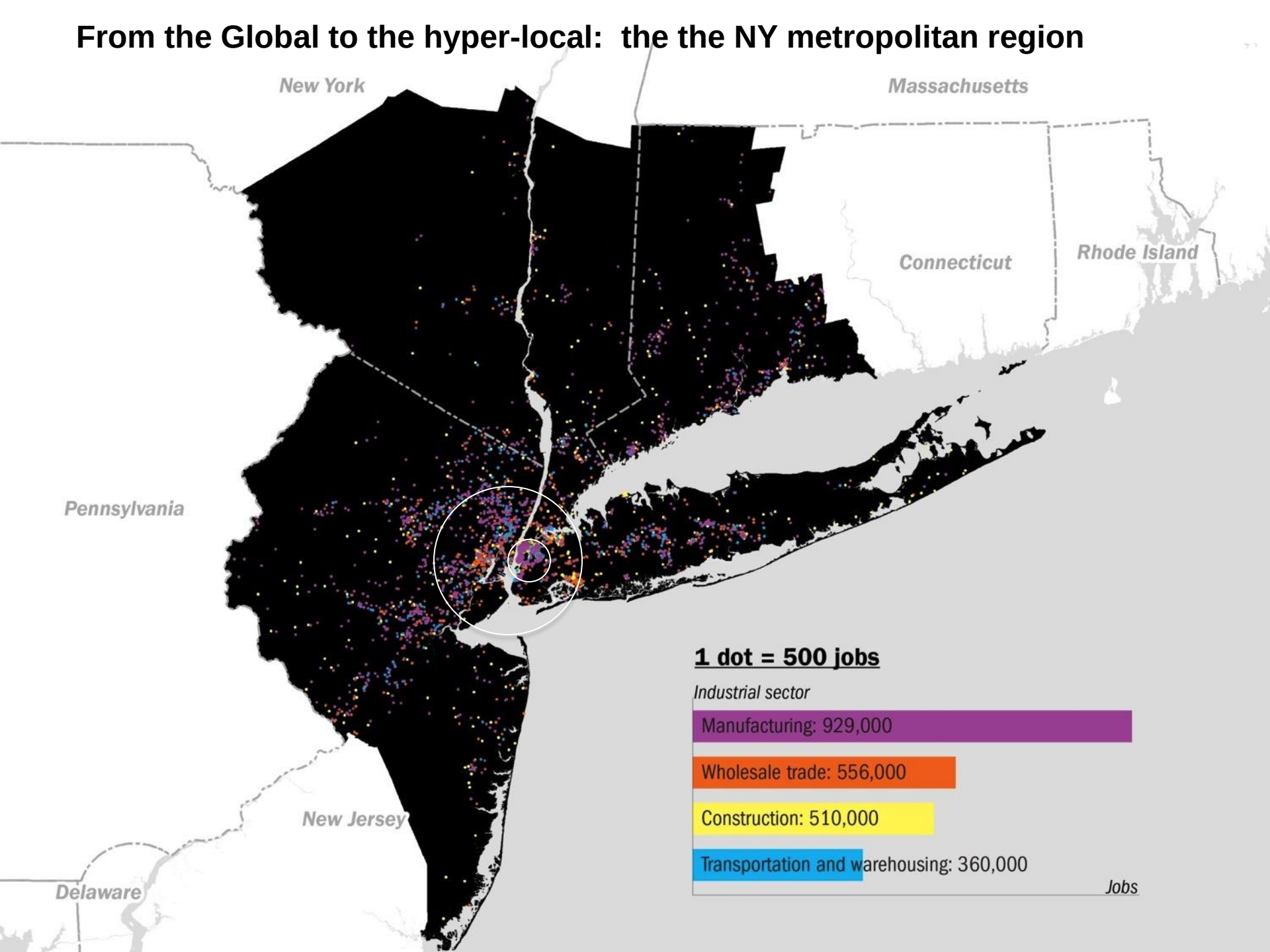
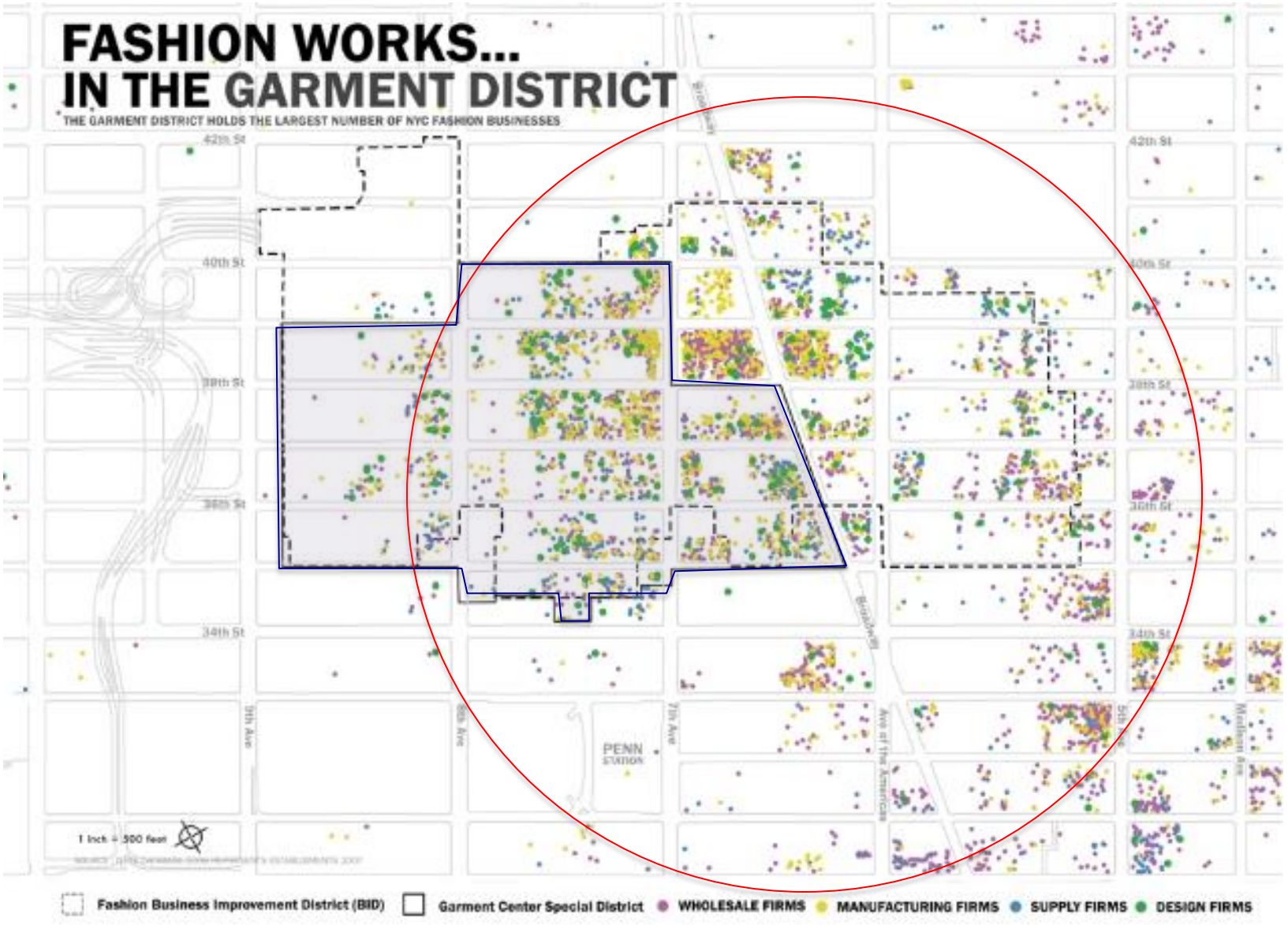


From the Global to the hyper-local: the the NY metropolitan region

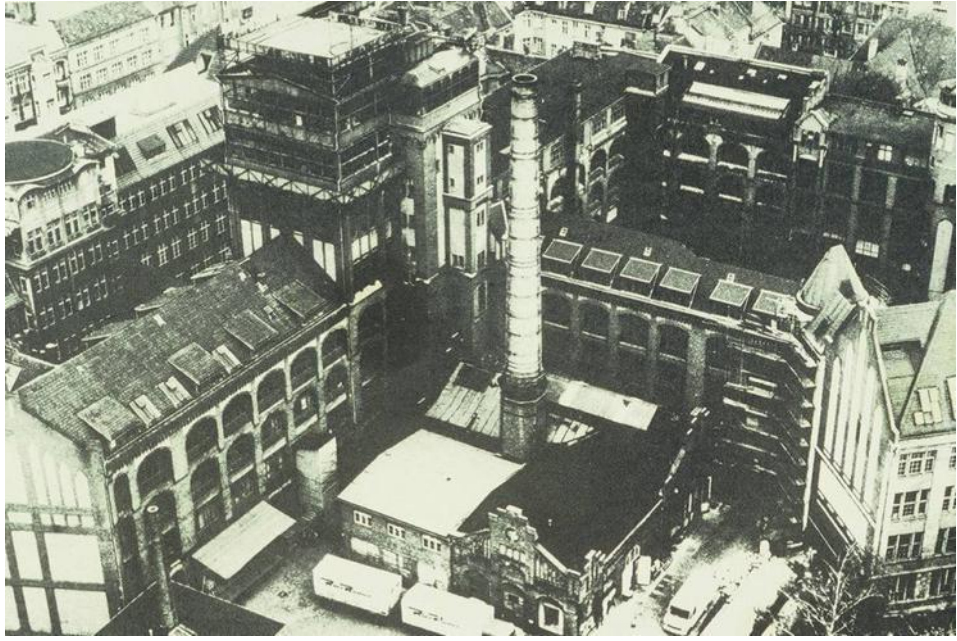


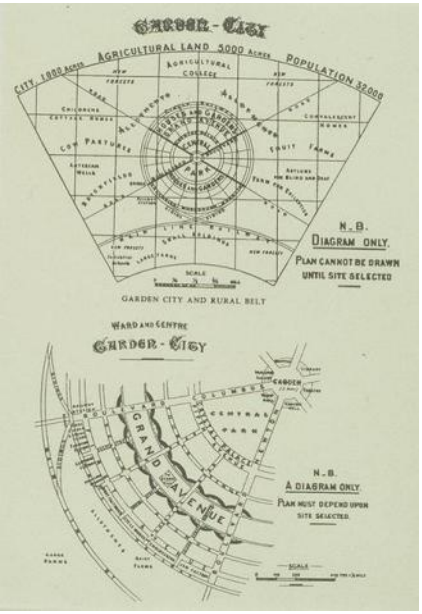
From the Global to the hyper-local: the manufacturing neighborhood



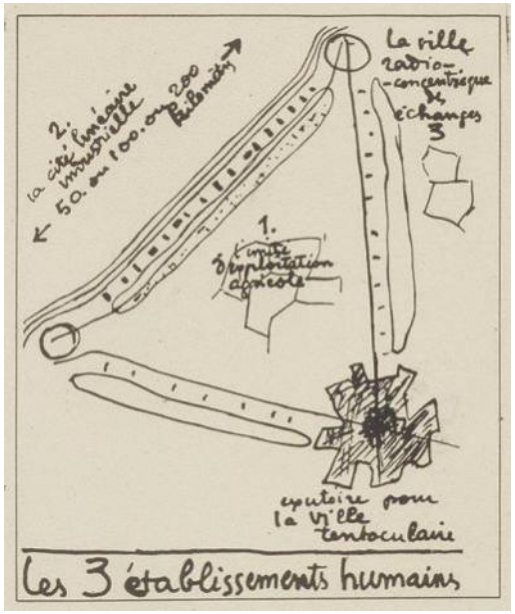
From the Global to the hyper-local: the manufacturing neighborhood

The Industrial City Returns:

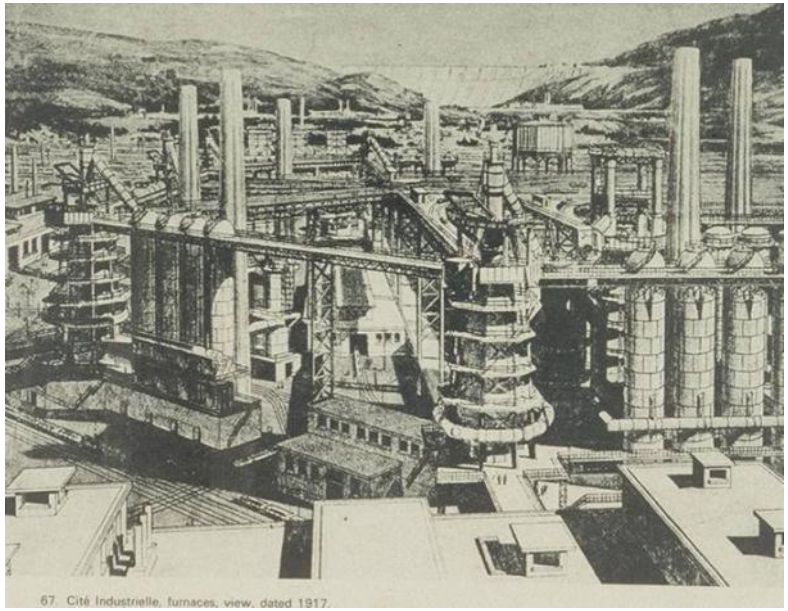




Howard's Garden City

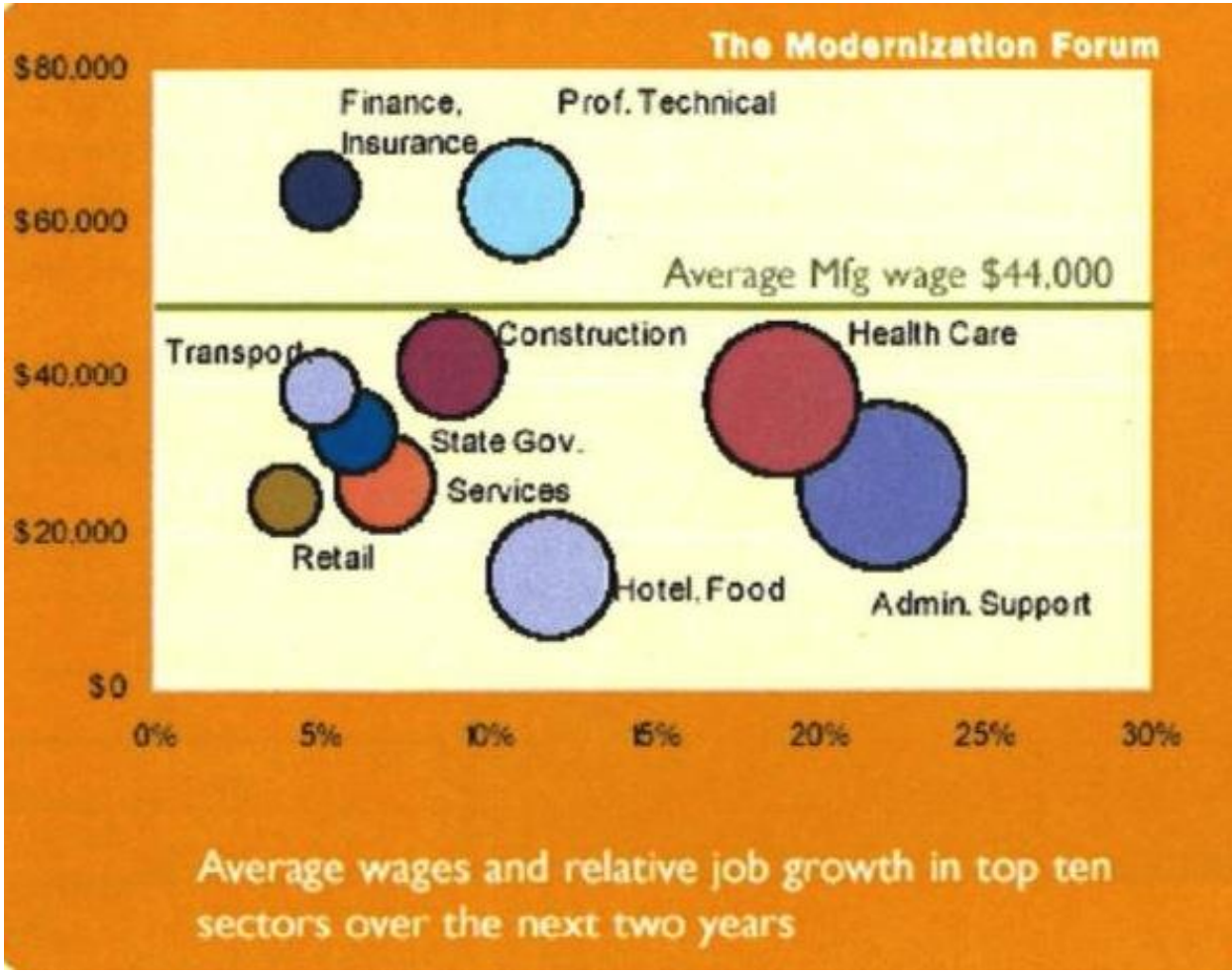


Le Corbusier



Toni Garnier

Does Manufacturing Matter?



Does Manufacturing Matter?

- You loose control of what you don't make
- Rents on innovation are paid in production
- Manufacturing has strongest linkages
- Manufacturing jobs are more valuable

Does *Urban* Manufacturing Matter: Equity and Environment

Does *Urban* Manufacturing Matter: Economy – agglomeration and innovation

Does *Urban* Manufacturing Matter: Economy – agglomeration and innovation

Does *Urban* Manufacturing Matter: Economy – agglomeration and innovation

"PDR":

- **Production**
- **Distribution**
- **Repair**

- **Changing nature of manufacturing enables new forms of mixed use**

Does *Urban* Manufacturing Matter: Economy – agglomeration and innovation

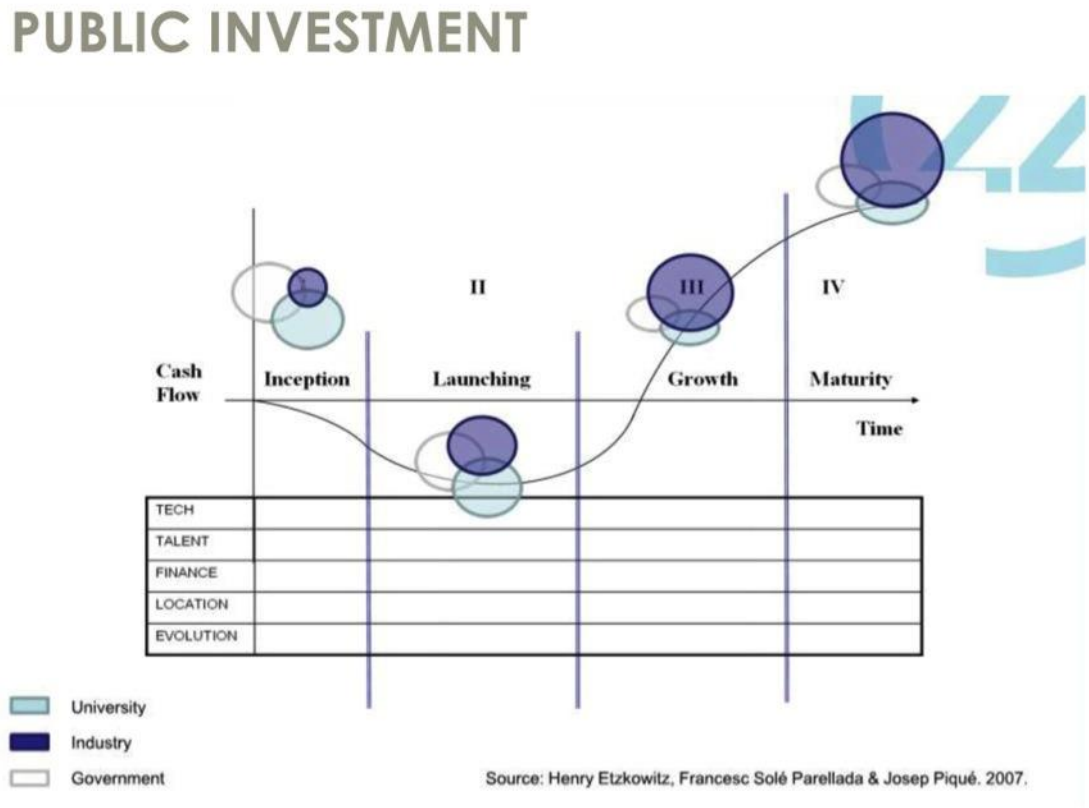
Design Implications:

- **Smaller spaces**
- **Proximity to the core**
- **Mixed Use**

Policy Implications:

- **Regulatory challenges**
- **Agglomeration versus displacement**

Does *Urban* Manufacturing Matter: The “innovation district”



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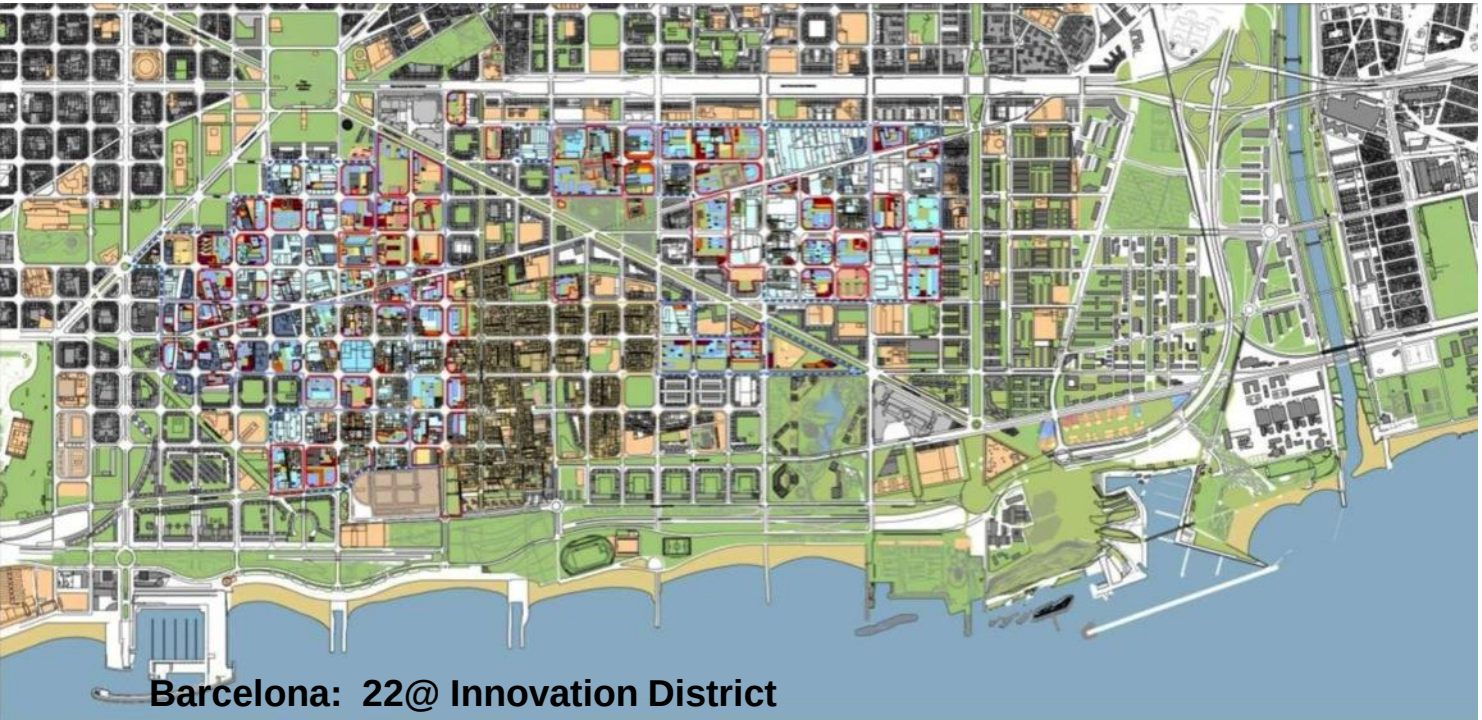


Barcelona: 22@ Innovation District

Does *Urban* Manufacturing Matter: The “innovation district”

Barcelona: 22@ Innovation District

Kendall/MIT Innovation District

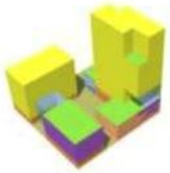
Does *Urban* Manufacturing Matter: The “innovation district”

City Gateway – Academic/Research/Mixed Use

1

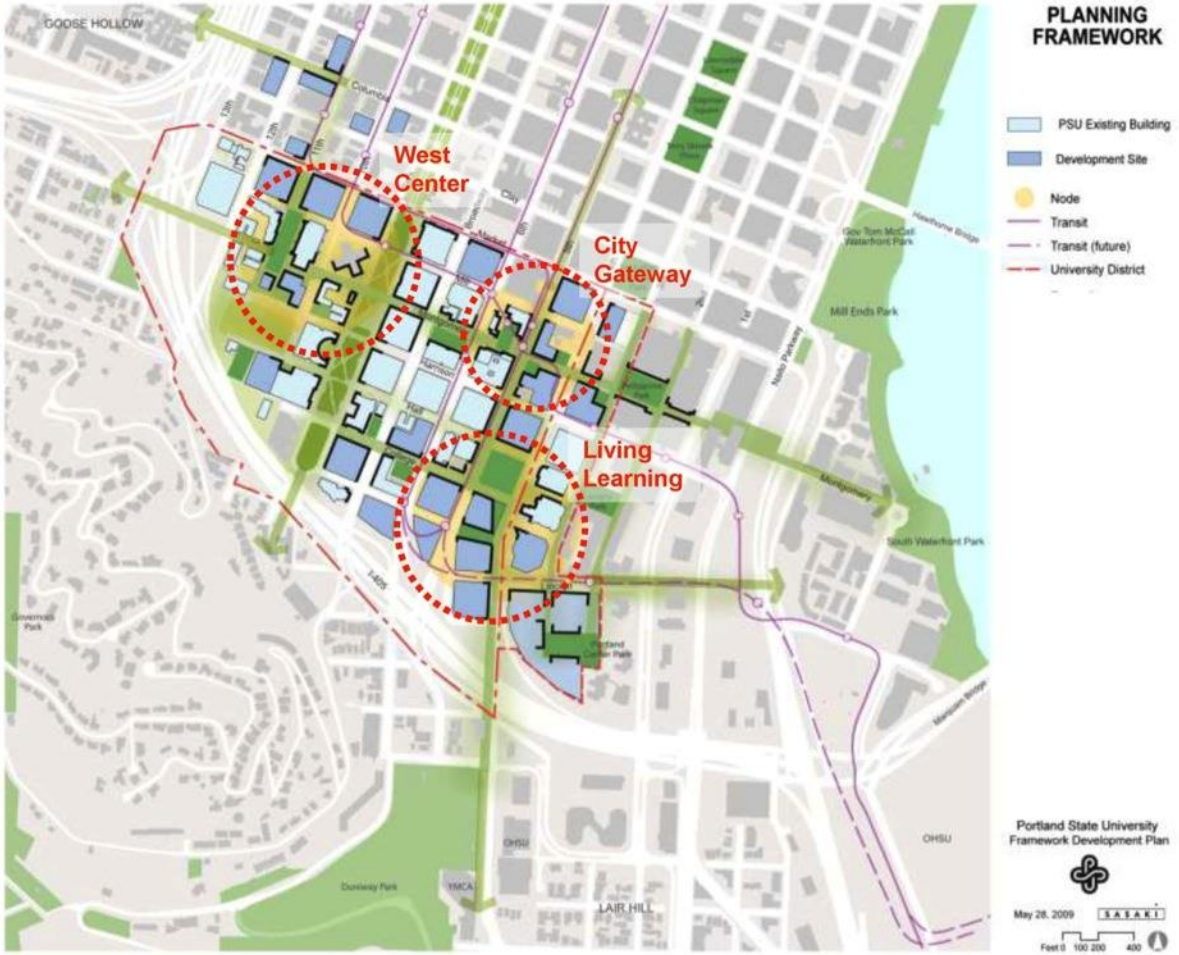
Living Learning Center – Residential/Academic/Mixed Use

2



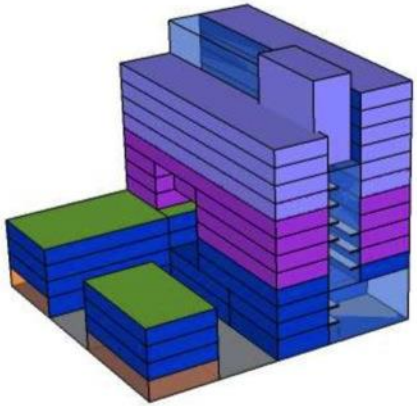
West Center – Academic/Student Life

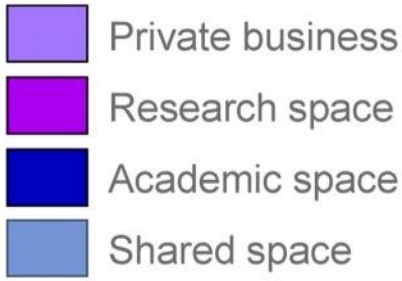
3

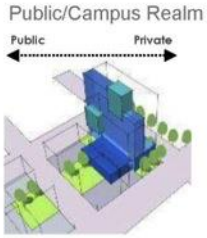


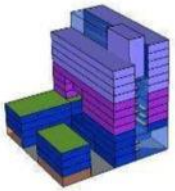
Portland State Innovation District

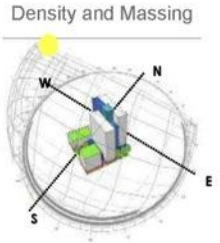
Does *Urban* Manufacturing Matter: The “innovation district”

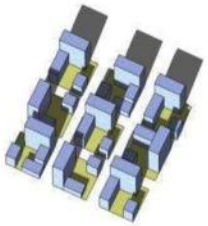


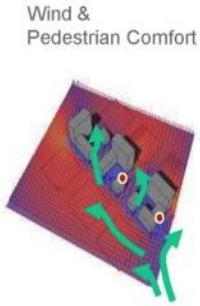


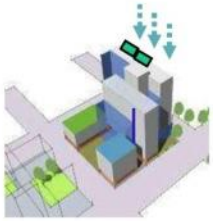












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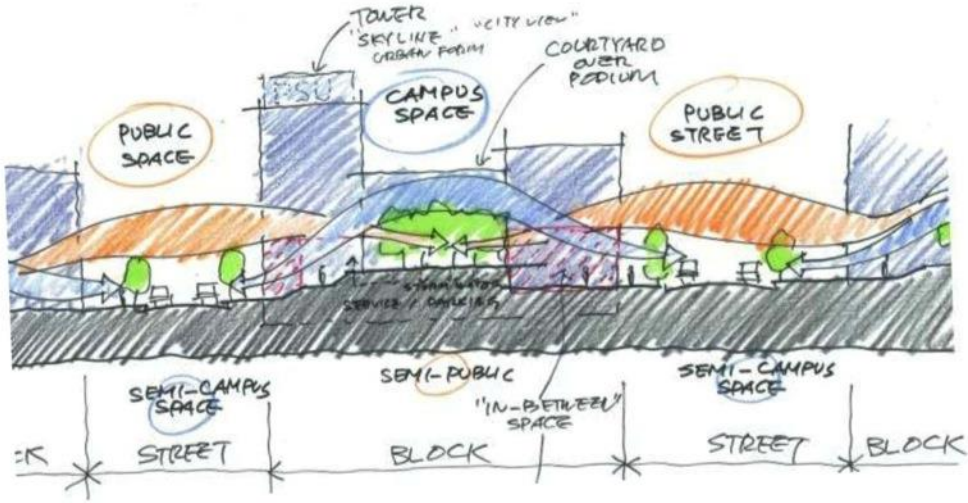
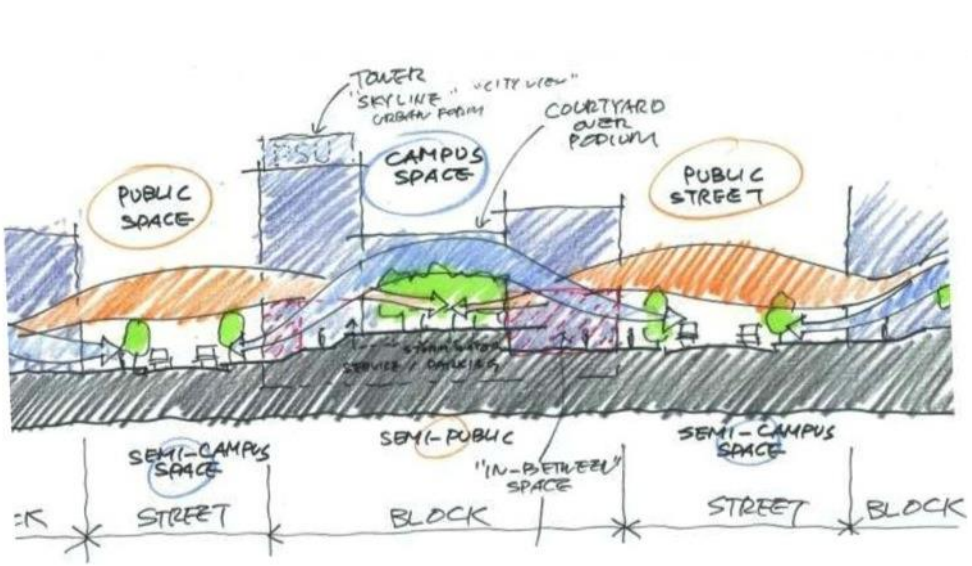
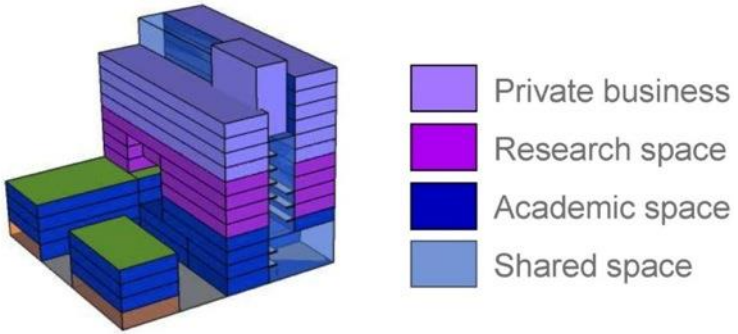


- **The “innovation district” and vertical mixed-use**



Questions:

- **Policy: Level of subsidy**
- **Regulation: Managing the mix**
- **Design:**
  - **How much proximity/connectivity**
  - **How much vertical mixed use**
  - **Role of streets and public spaces**



The “innovation district” and vertical mixed-use

The “innovation district” and vertical mixed-use

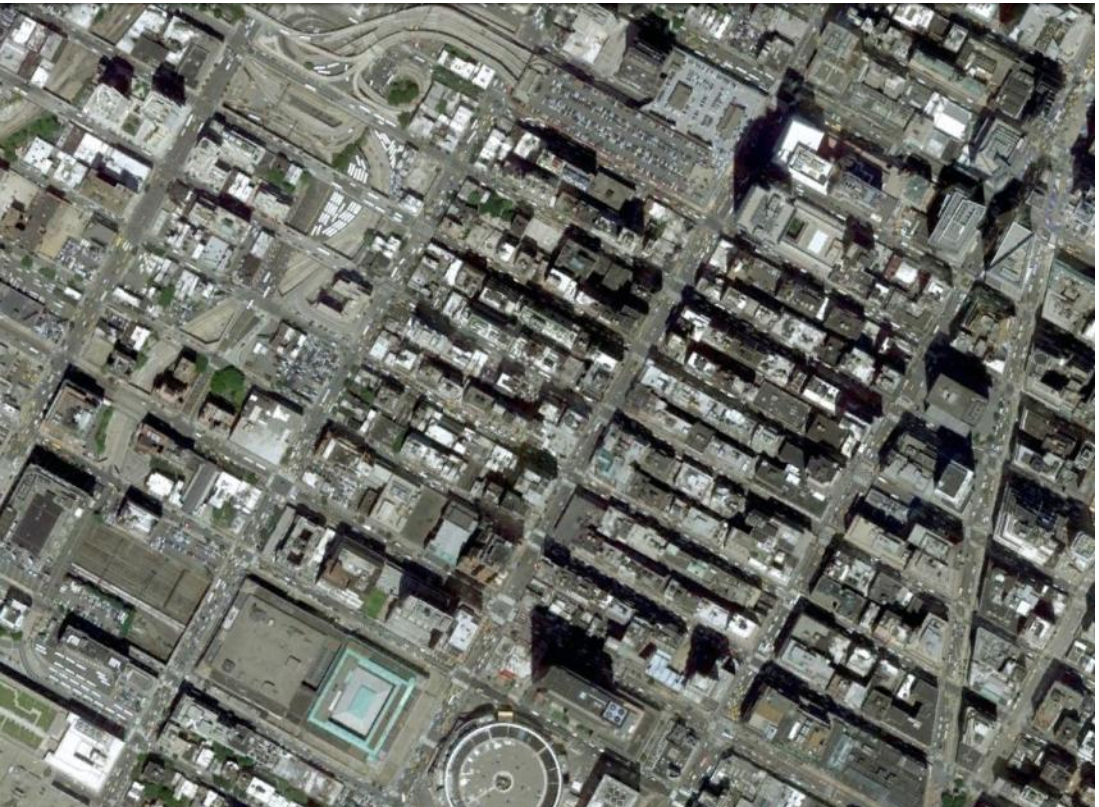
Hotel industriele, Paris

The “innovation district” and vertical mixed-use

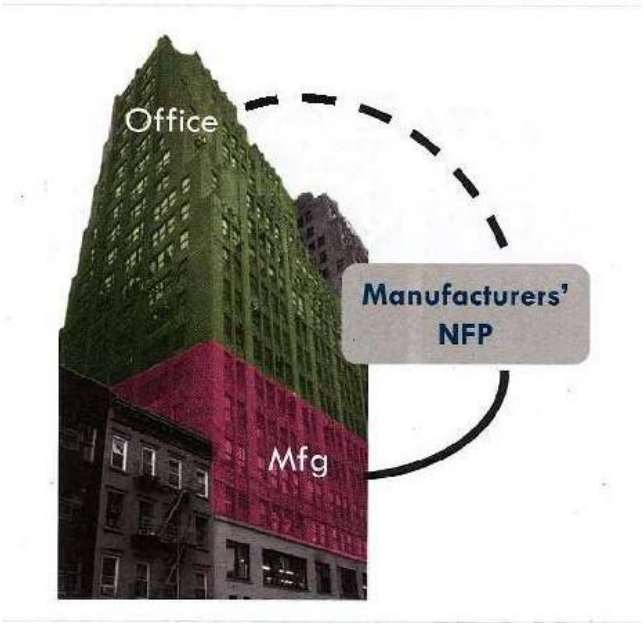
Legacy mixed-use

The “innovation district” and vertical mixed-use

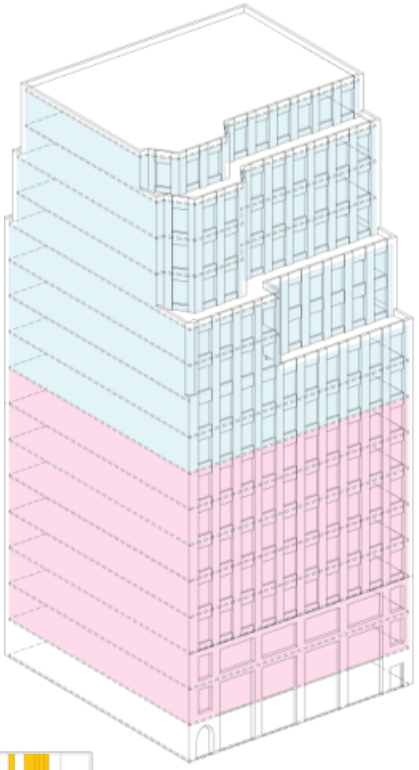
The “innovation district” and vertical mixed-use



The “innovation district” and vertical mixed-use

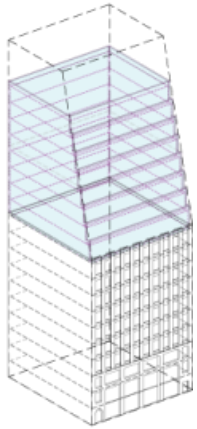


The “innovation district” and vertical mixed-use



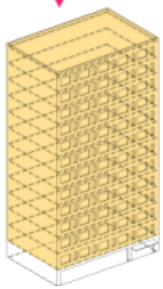
+50,000 SF
Commercial
Conversion

+50,000 SF
Development Bonus
within Transfer Area



50,000 SF
Deed-Restricted
to Light Manu-
facturing Use

+50,000 SF
Residential Bonus

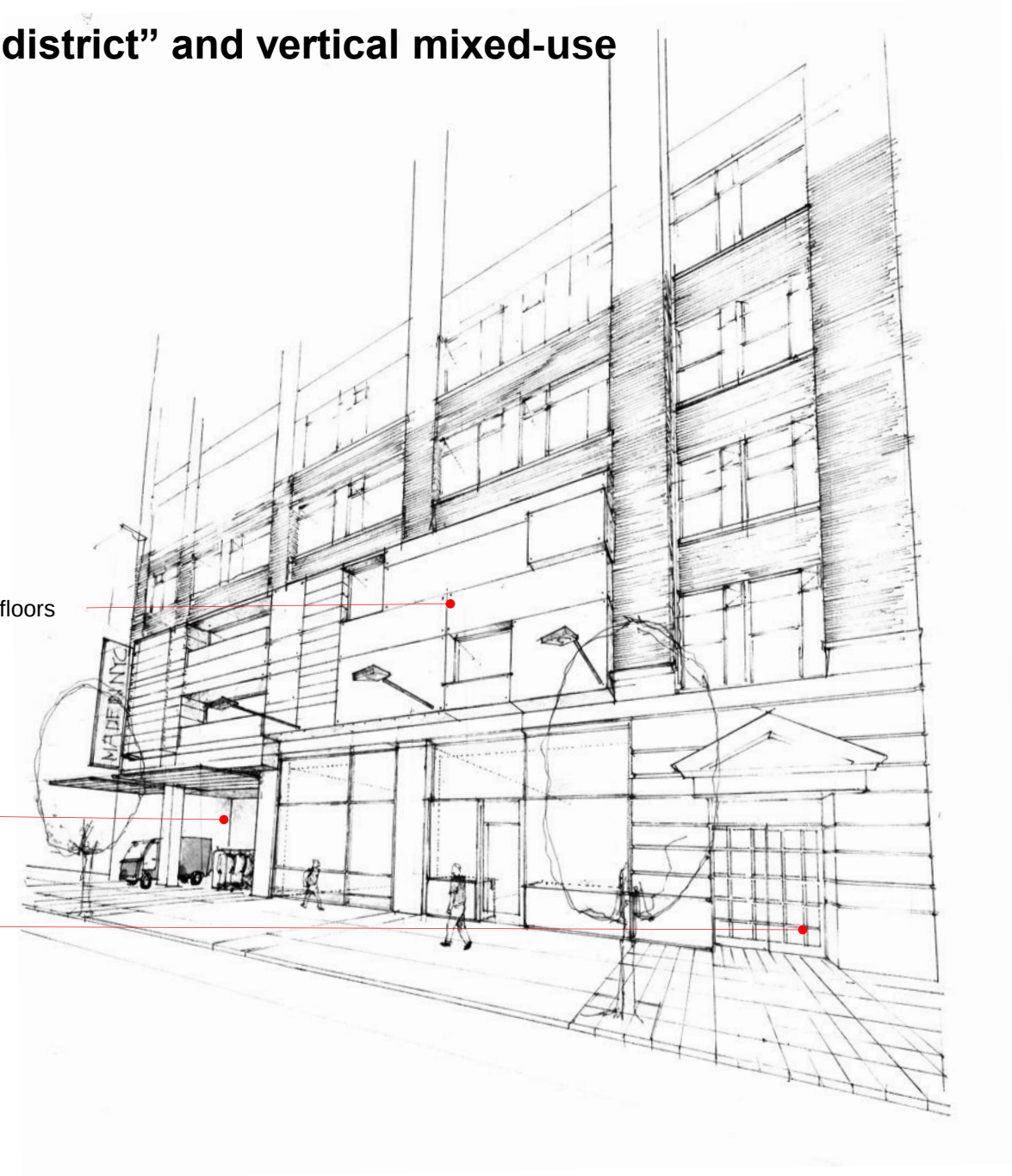


TRANSFER AREA: SOFT SITES

soft sites in existing manufacturing zones

soft sites in existing commercial zones

The “innovation district” and vertical mixed-use

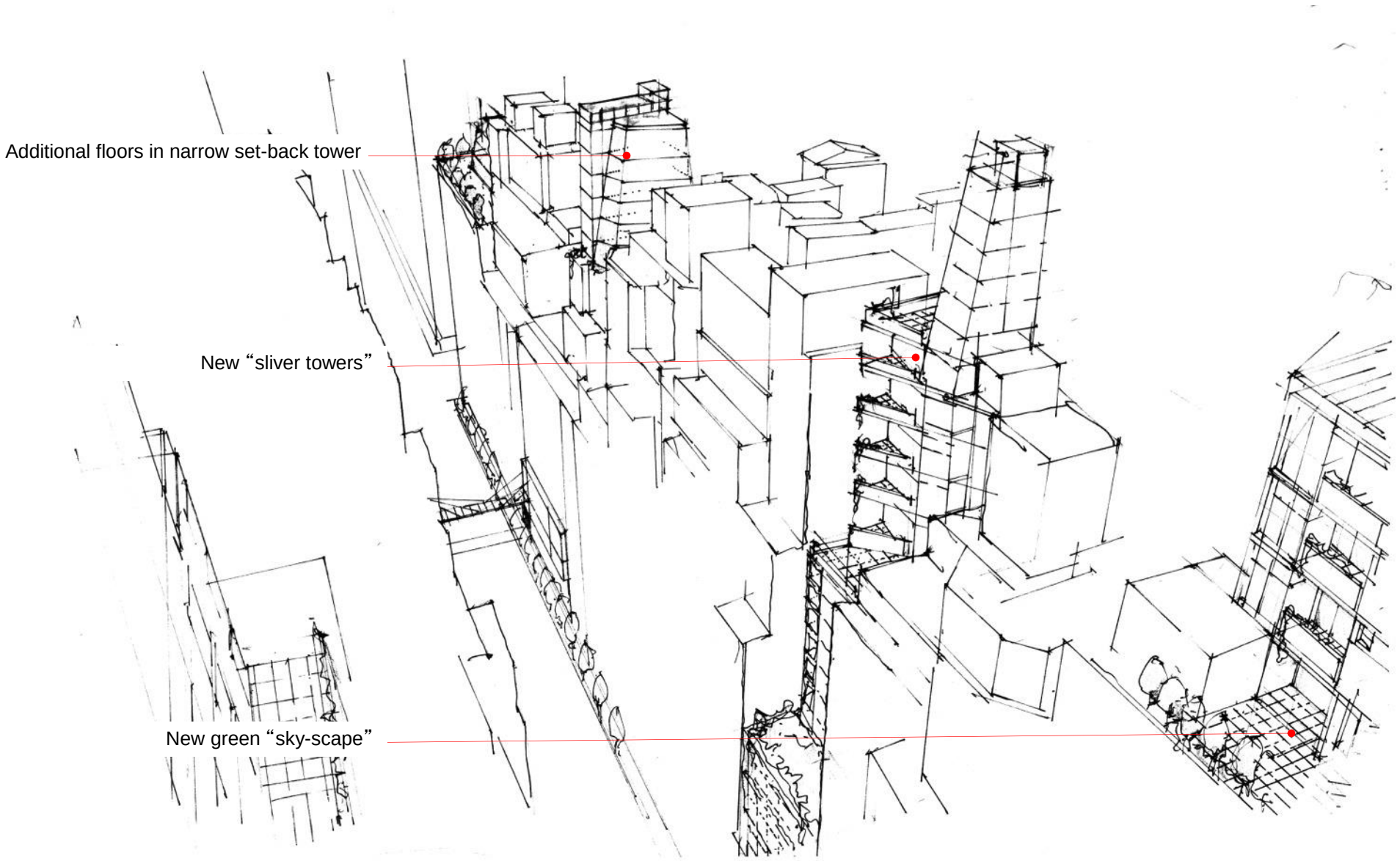


Factory consolidated on lower two floors

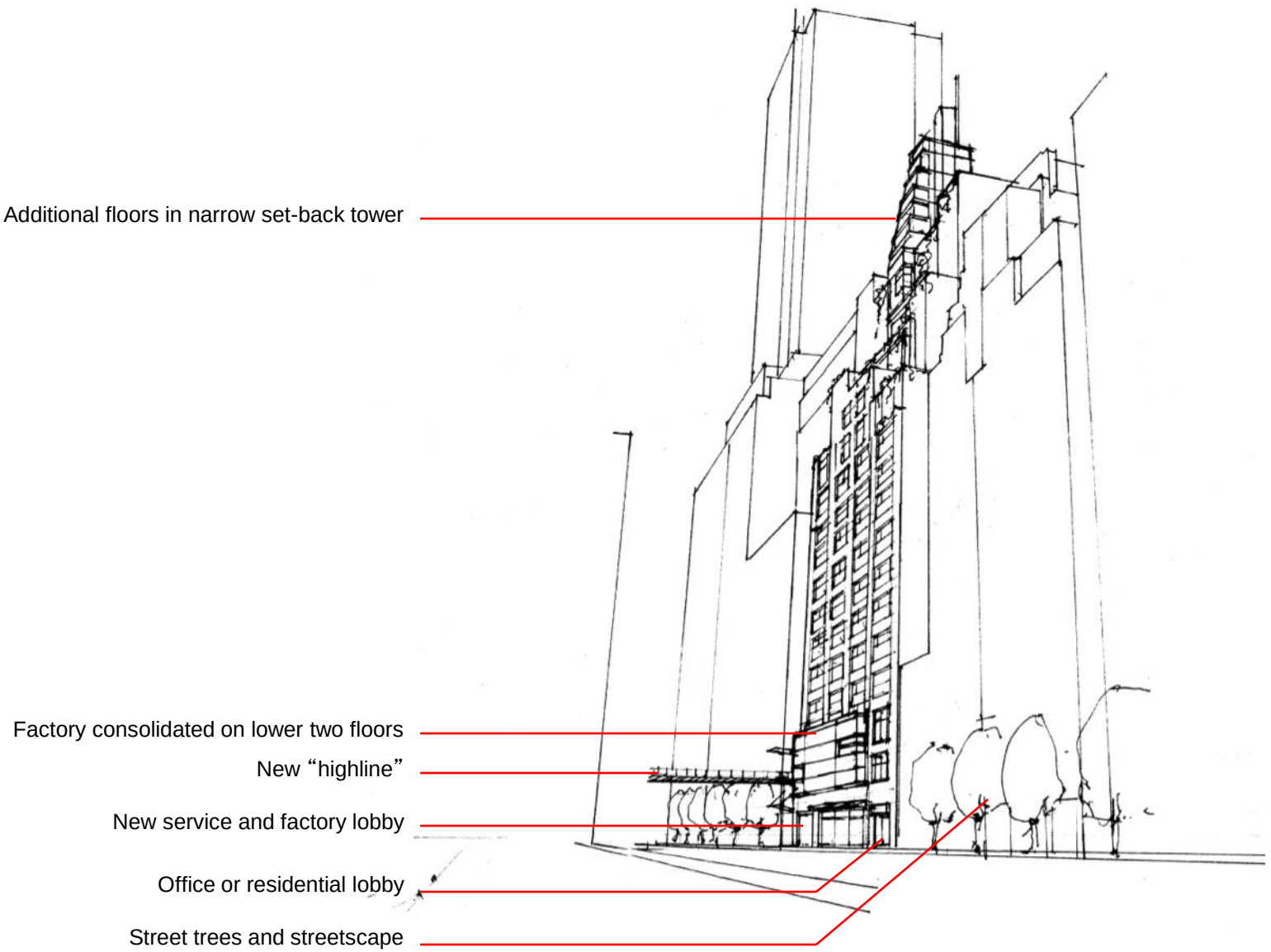
New service and factory lobby

Office or residential lobby

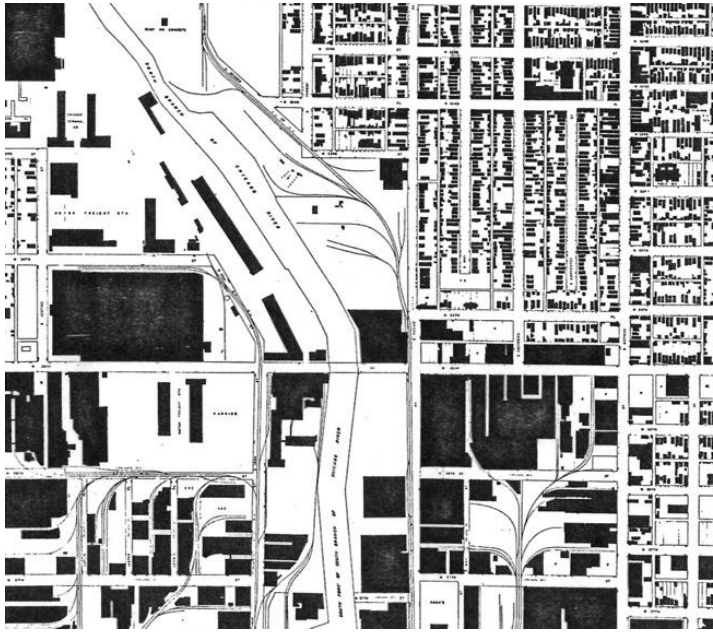
The “innovation district” and vertical mixed-use



The Industrial District Reconsidered: Garment District Case Study



- **Innovation and the Low-rise urban industrial district**



Crawford Industrial District, Chicago, 1931

Spring Creek , New York, 1952

Challenge: The Low-rise urban industrial district



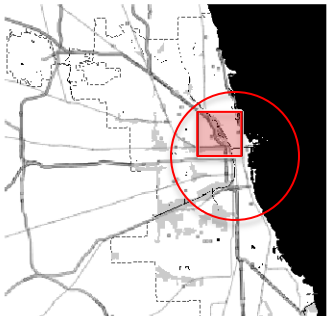


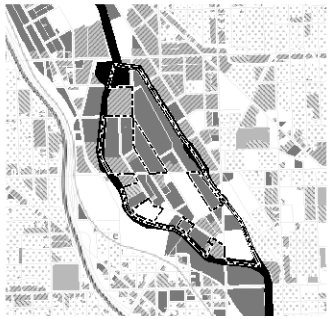




Challenge: The Low-rise urban industrial district

CHICAGO

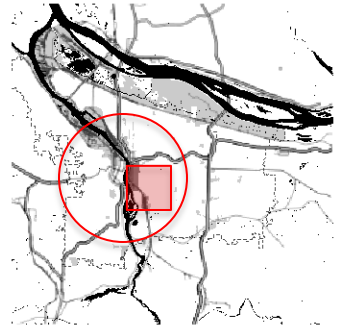
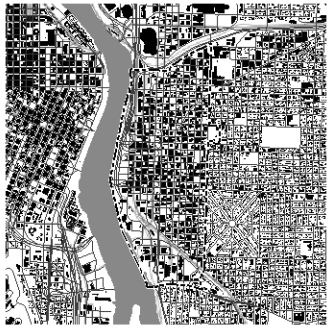
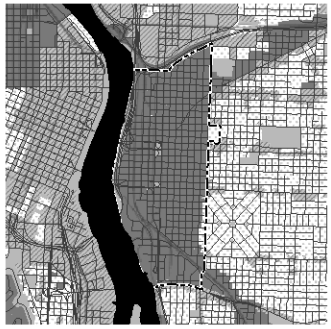





PITTSBURGH




PORTLAND


Challenge: The Low-rise urban industrial district

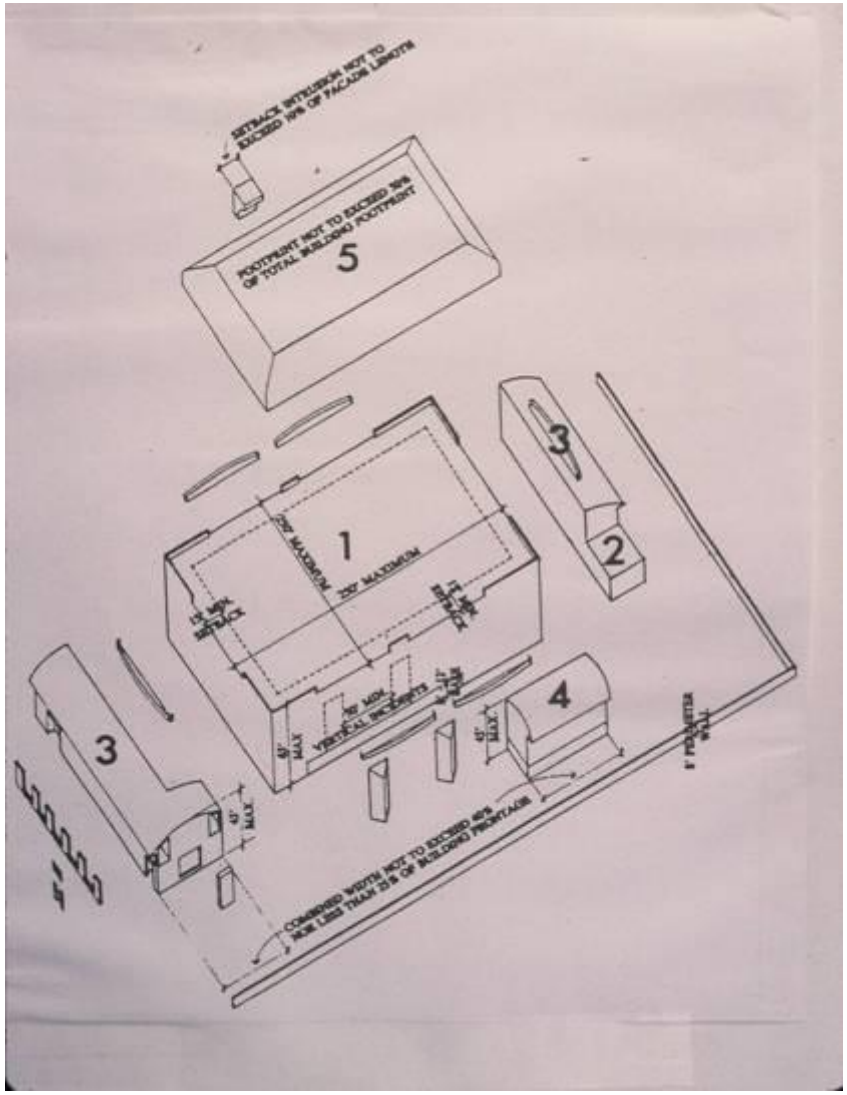
What are the design issues?

- **Large buildings that are not suited to the new urban manufacturing model**
- **Buildings that do not relate to the street**
- **Public space design: Disorganized left-over spaces. Poorly defined loading and storage areas**
- **Street design: quality of pedestrian experience and goods movement**
- **Managing the edge: integration versus encroachment**

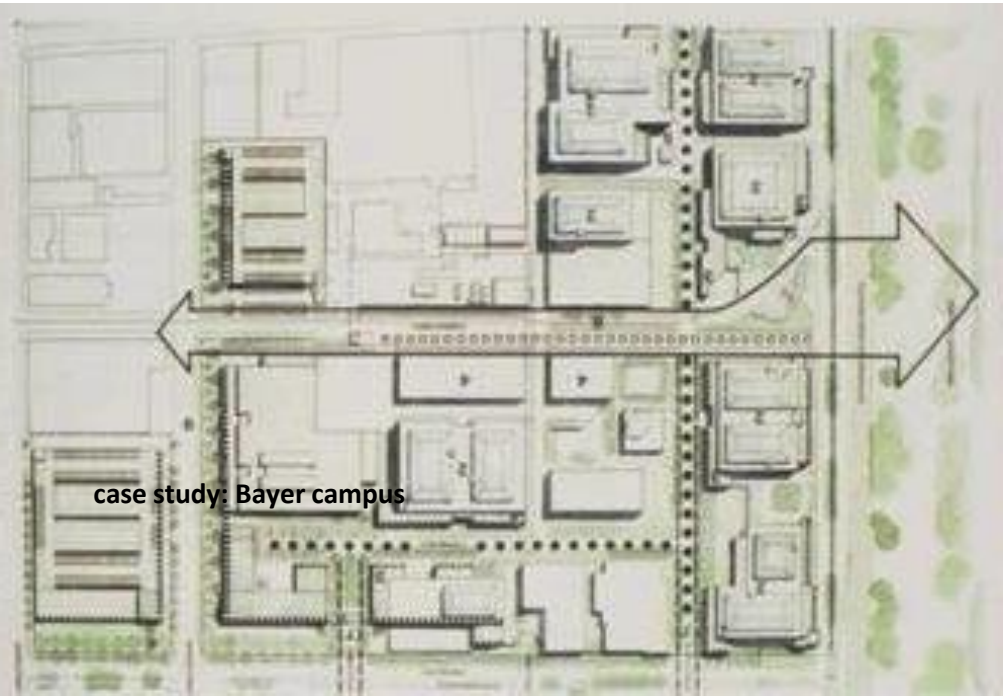
Strategies and case studies:

- **Beyond the Box: clip and carve**
- **Rationalize the leftover spaces**
- **Create mixed-use streets**
- **Explore new building types to introduce new uses**

Low-rise industrial district strategies: beyond the box

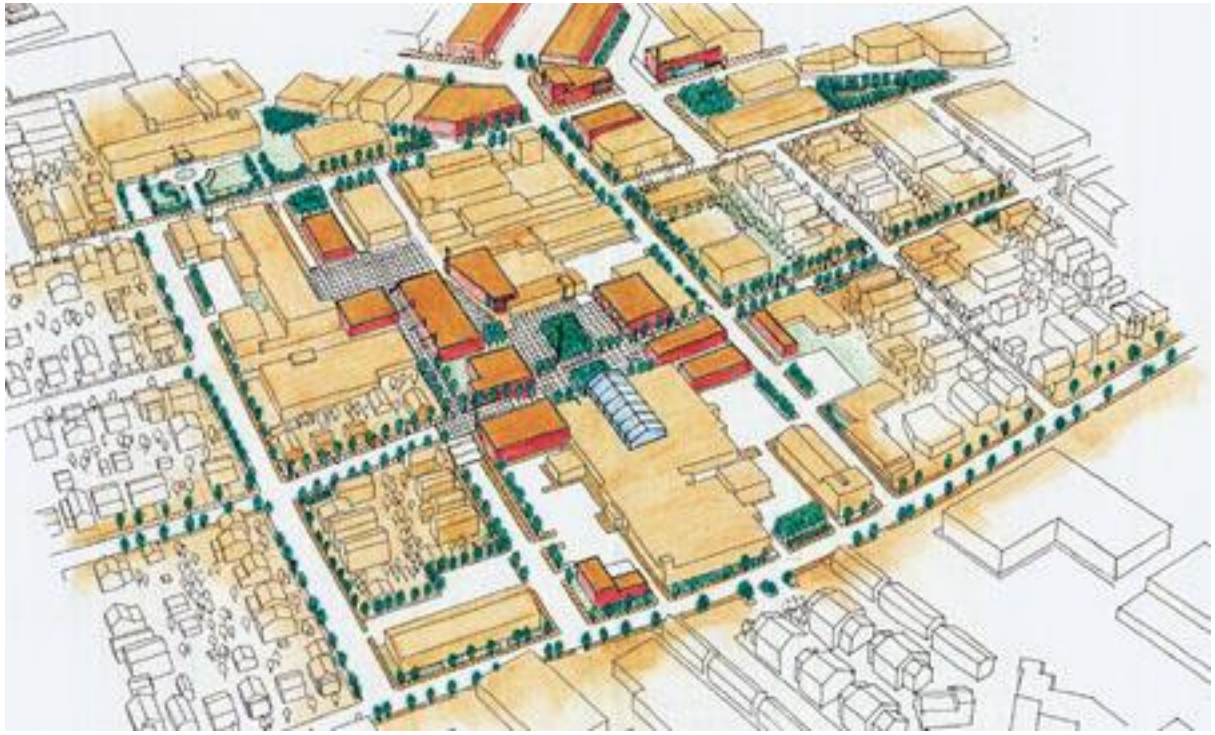


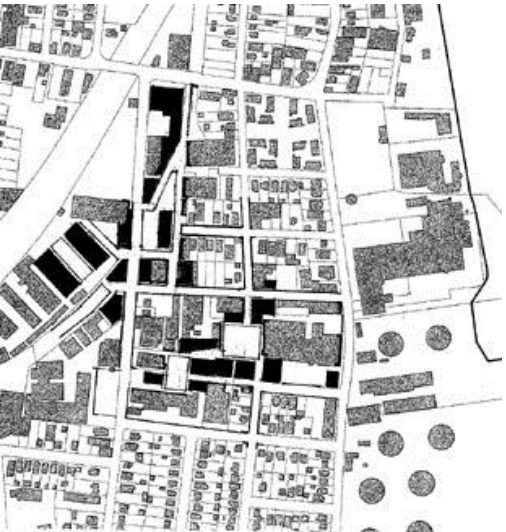
Low-rise industrial district strategies: make the open space network

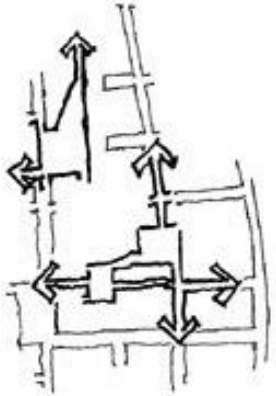


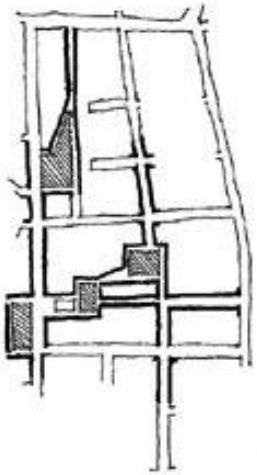
case study: Bayer campus

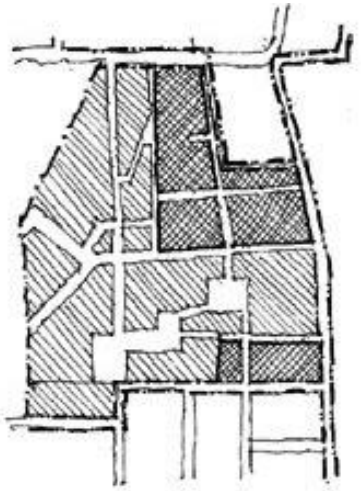
Low-rise industrial district strategies: make the open space network



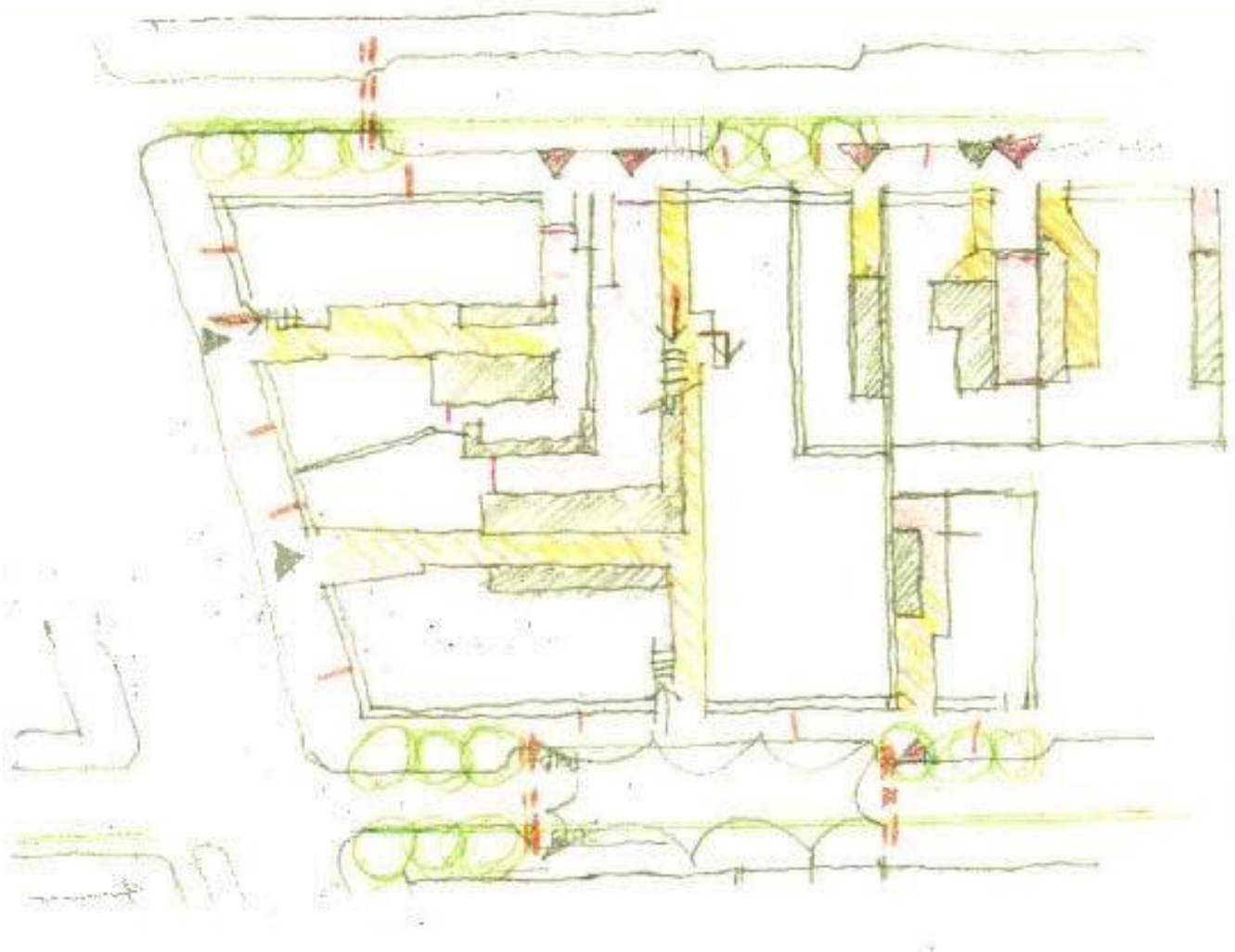






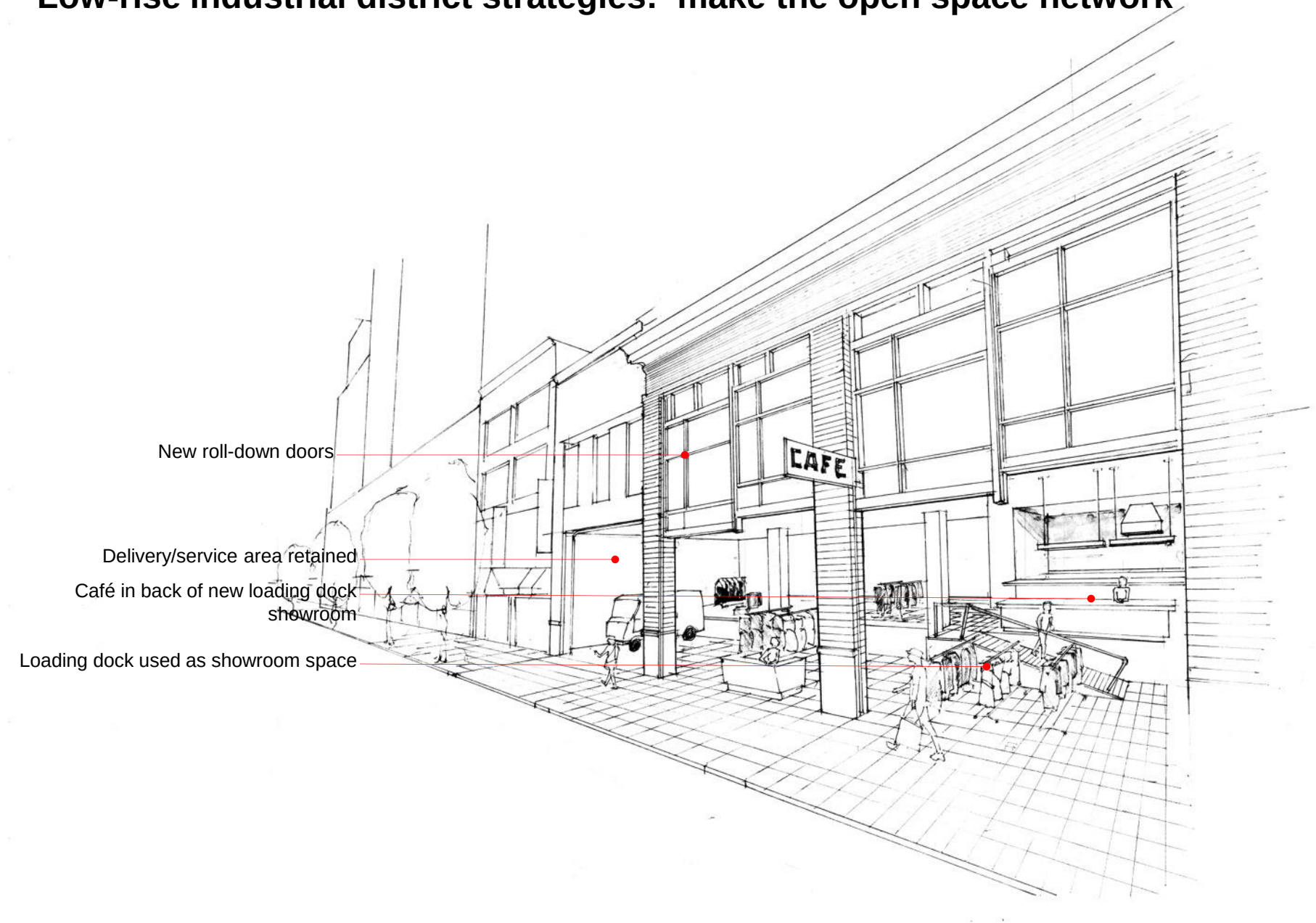


Low-rise industrial district strategies: make the open space network



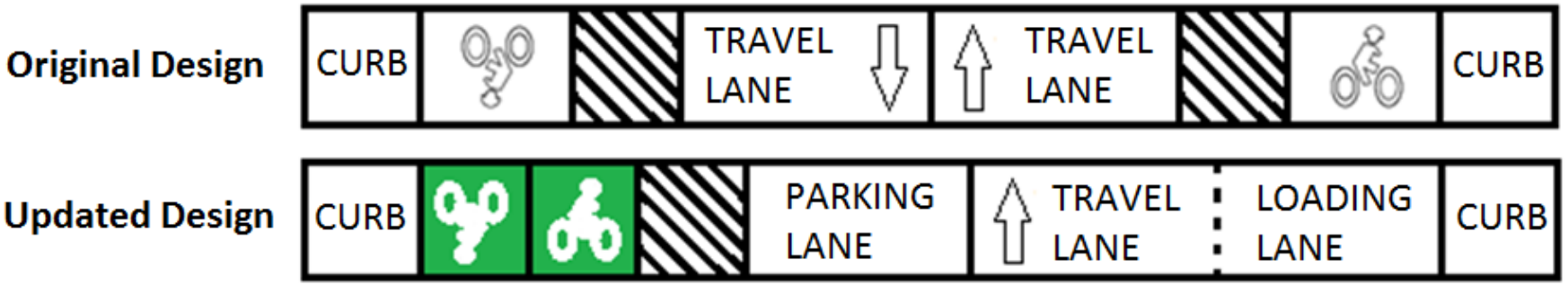
LOADING DOCKS

Low-rise industrial district strategies: make the open space network



Mixed-use in time and space: sharing

Low-rise industrial district strategies: re-think the street

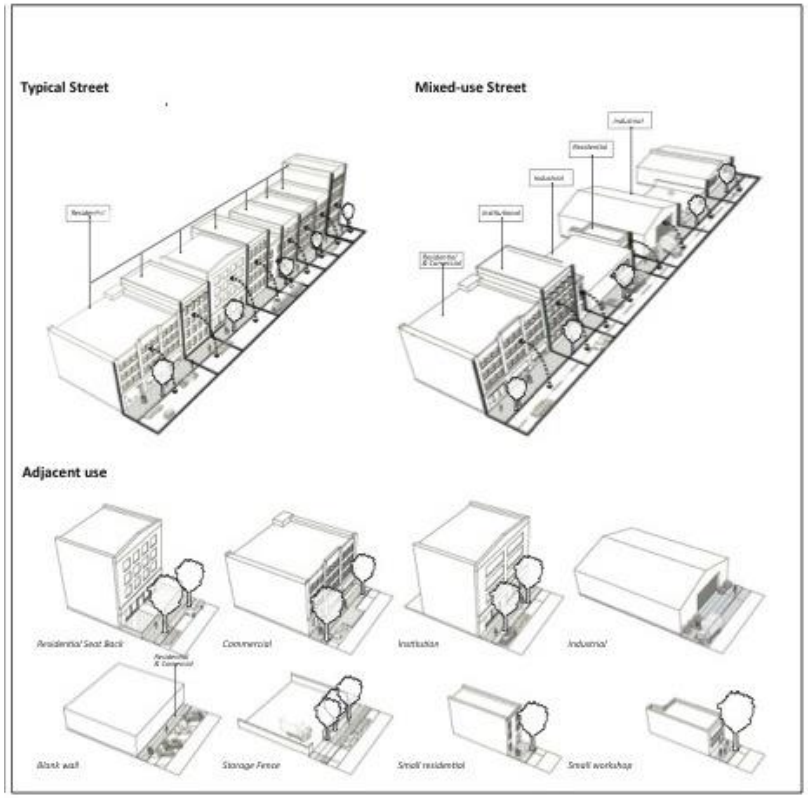


Low-rise industrial district strategies: re-think the street

Mixed use bike lane symbol

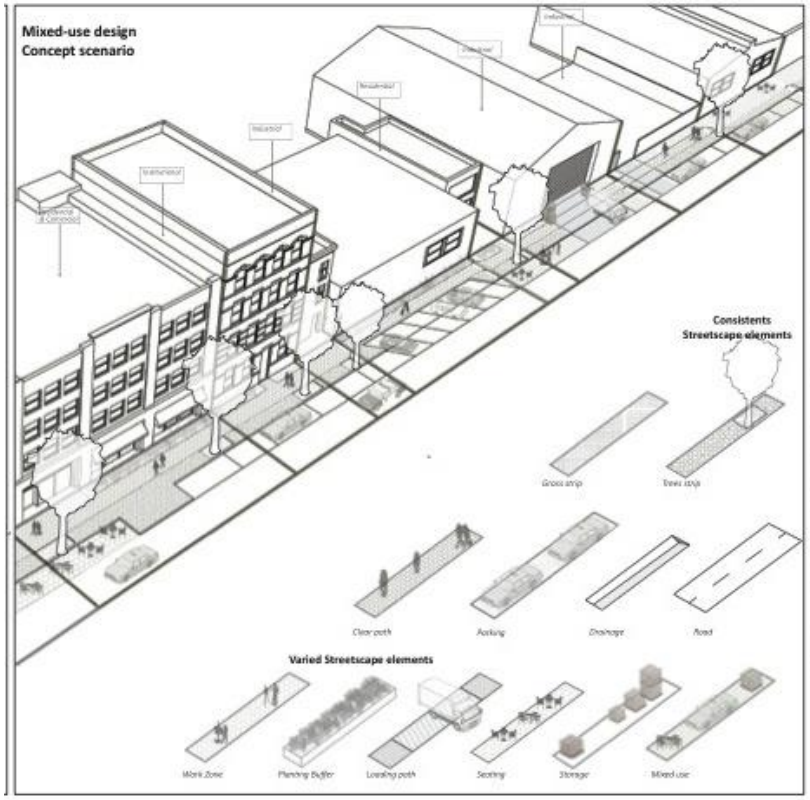
Typical cross street

Low-rise industrial district strategies: re-think the street



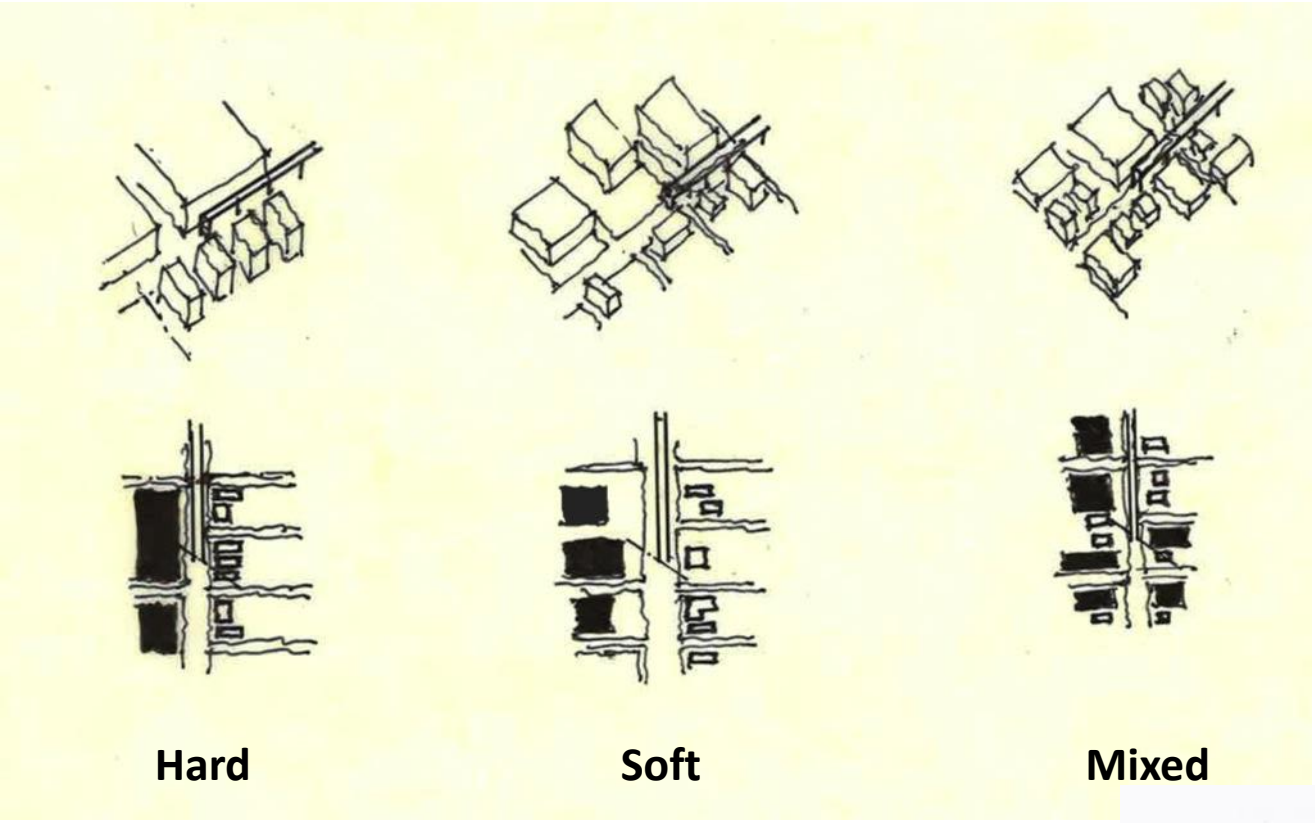
Mixed use street “kit of parts”

Low-rise industrial district strategies: re-think the street

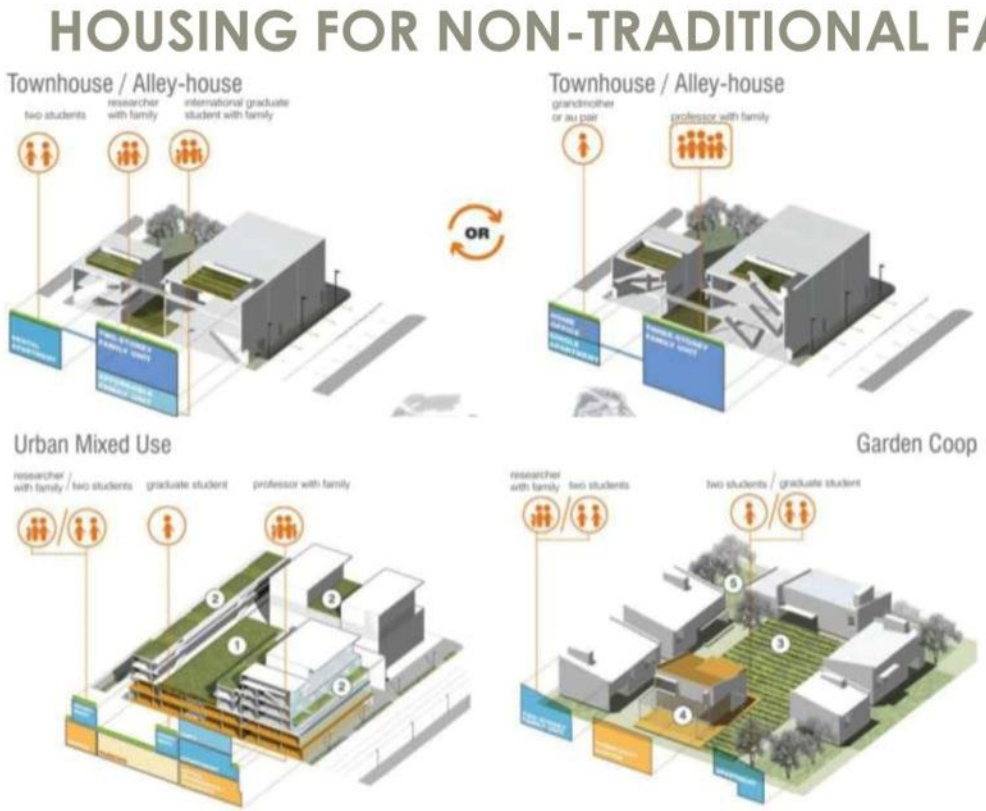


Mixed use street “kit of parts”

Low-rise industrial district strategies: fix the edge



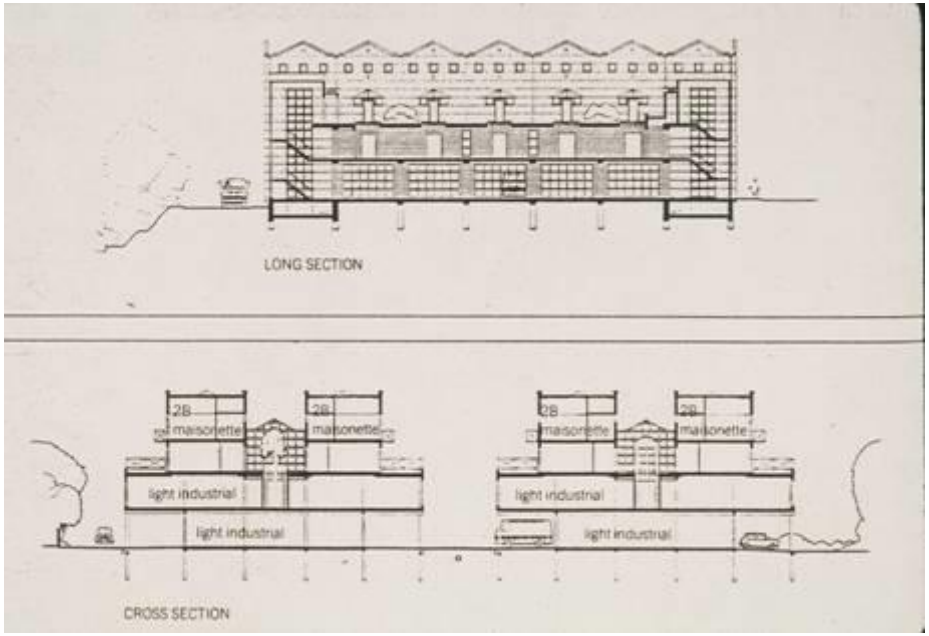
Industrial district strategies: low-rise mixed use



University of Calgary, BC

Industrial district strategies: low-rise mixed use

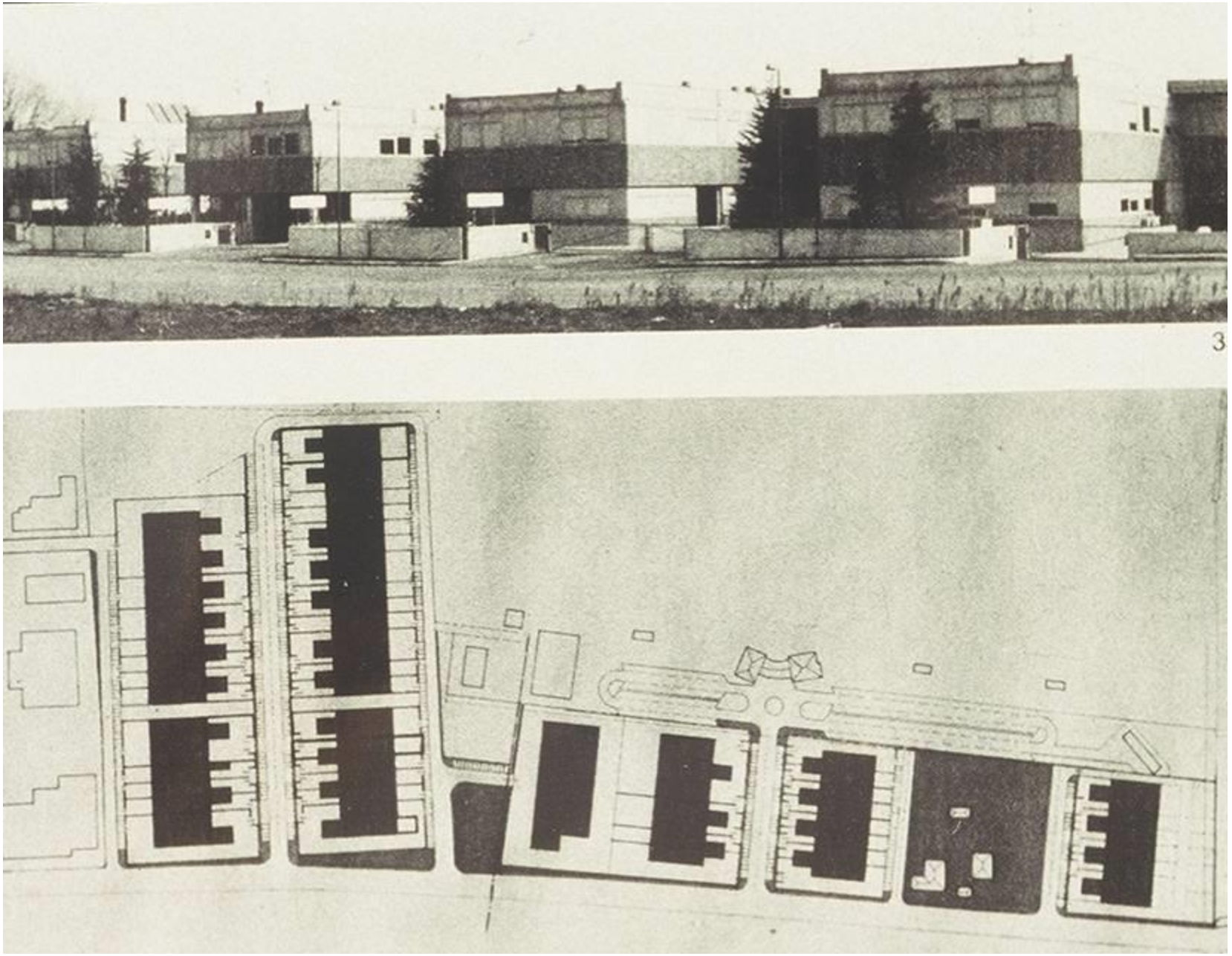
Industrial district strategies: low-rise mixed use



Industrial district strategies: low-rise mixed use

Industrial district strategies: low-rise mixed use

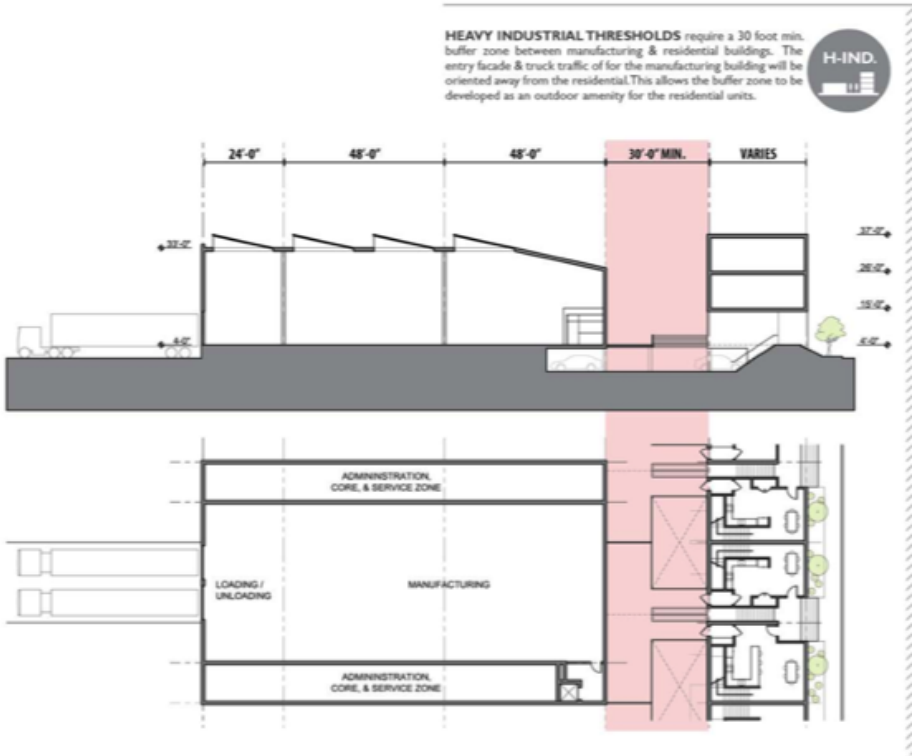
Industrial district strategies: low-rise mixed use

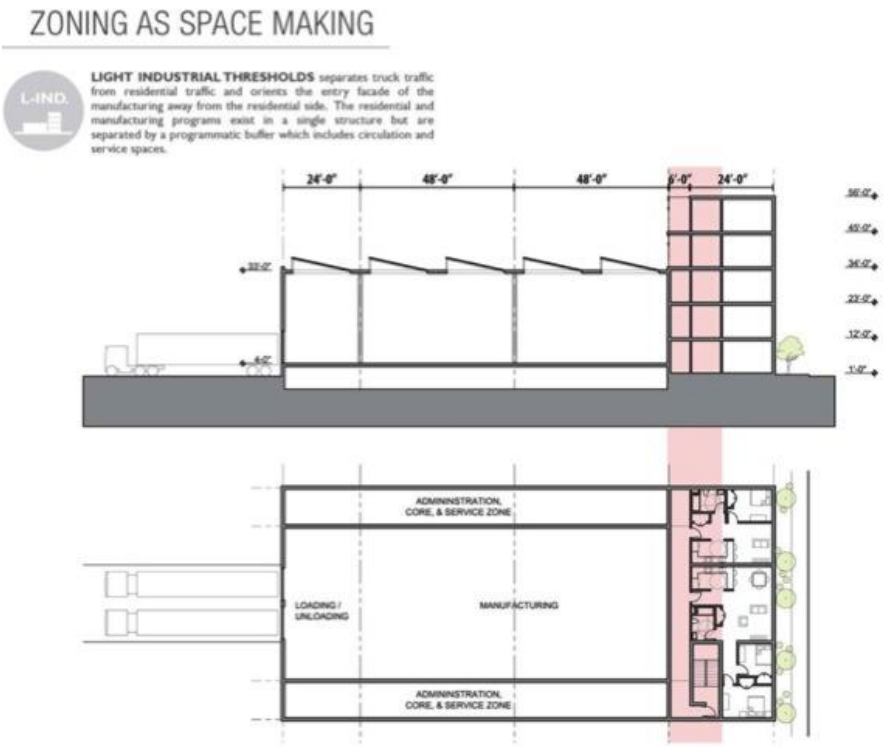


Industrial district strategies: low-rise mixed use

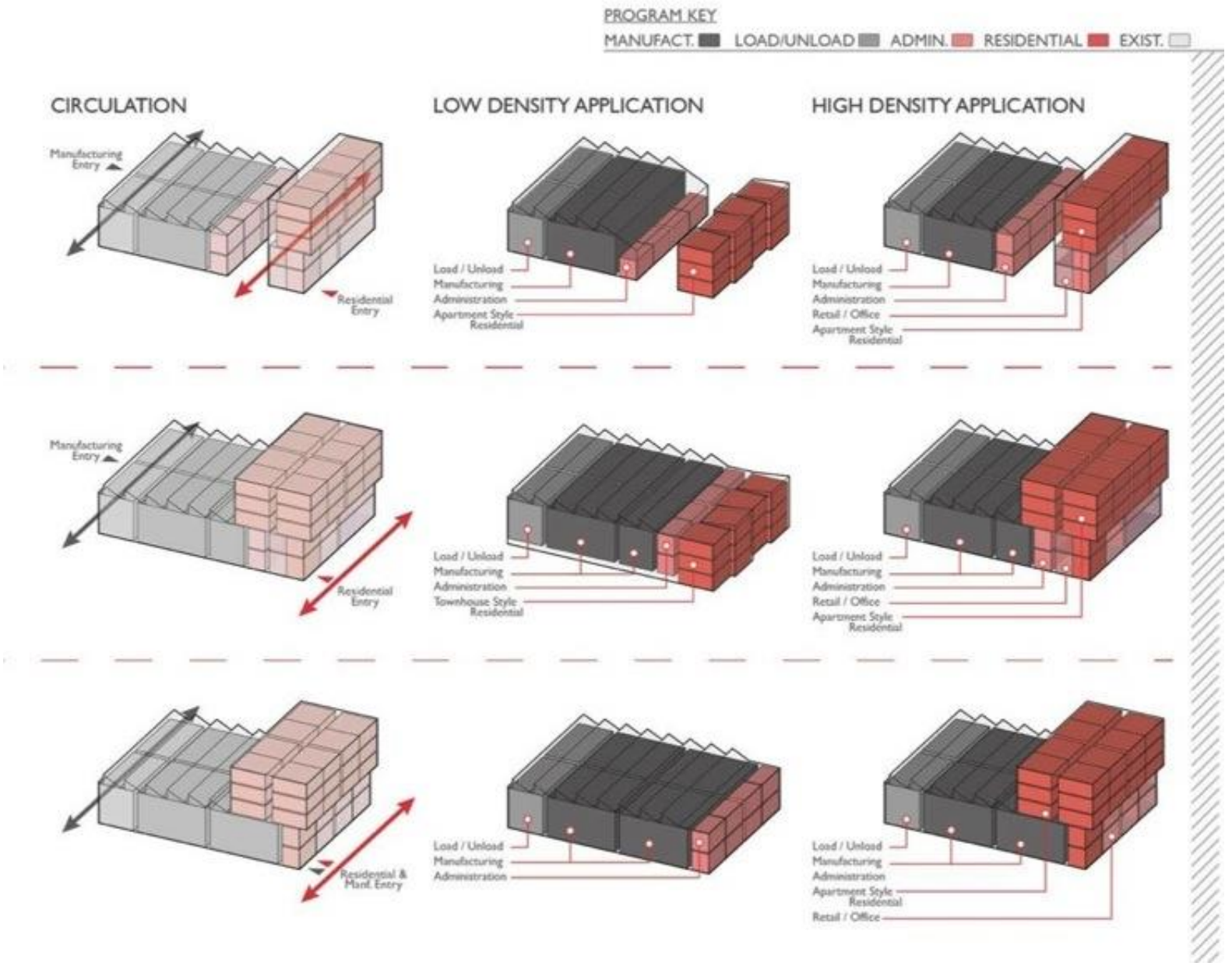
Newmarket, Boston, MA

Industrial district strategies: low-rise mixed use





Industrial district strategies: low-rise mixed use

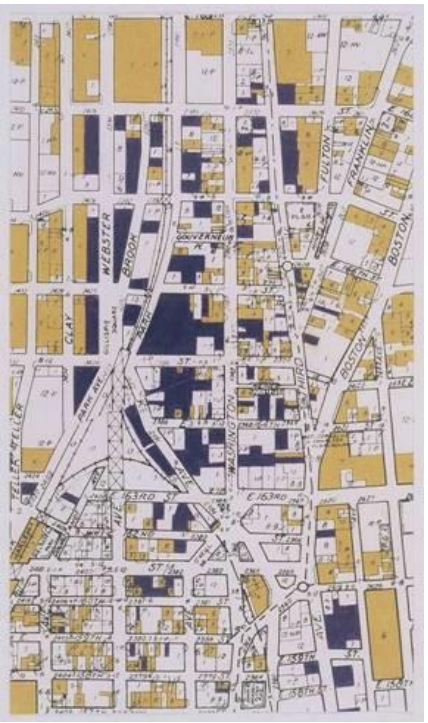


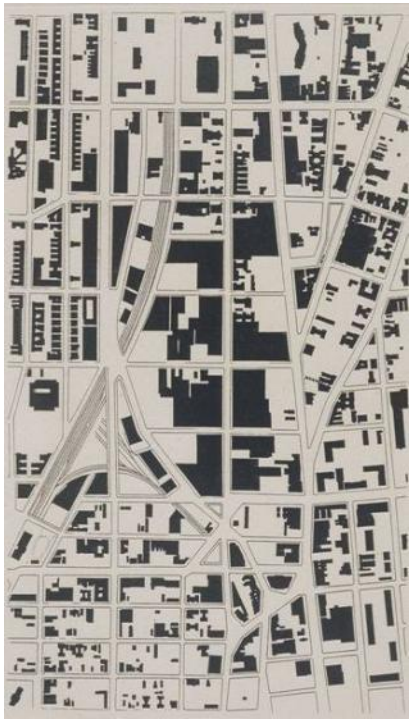
Industrial district strategies: low-rise mixed use

Industrial district strategies: low-rise mixed use

case study:
Morrisania Industrial Park

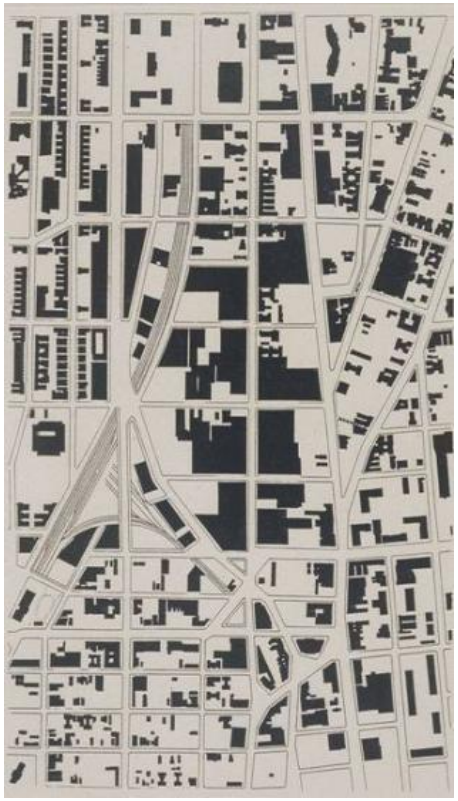
Industrial district strategies: low-rise mixed use

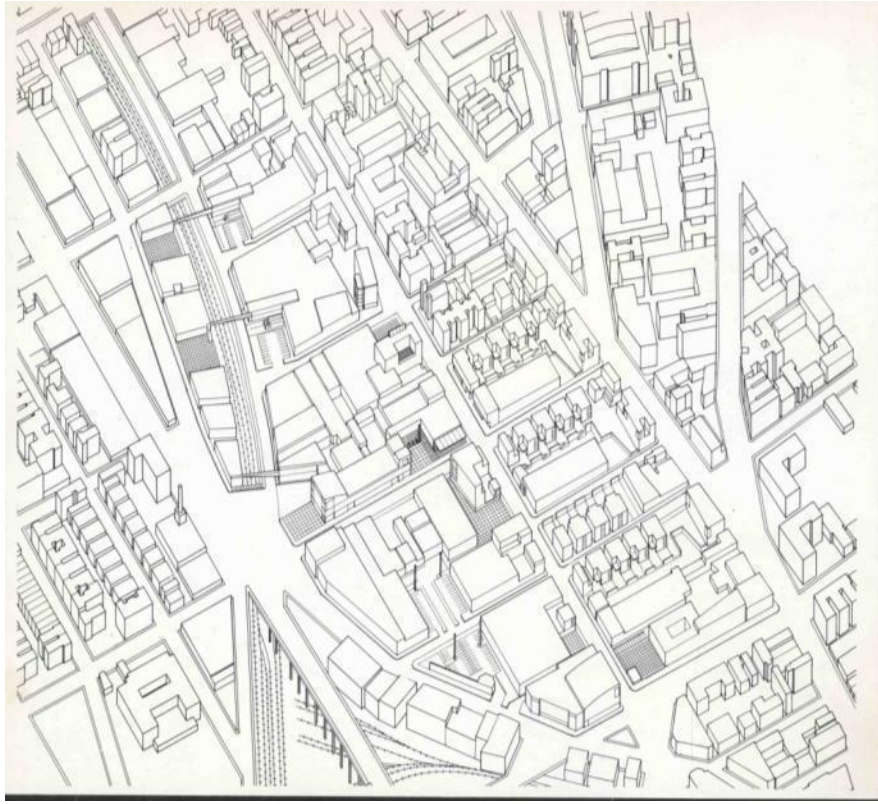


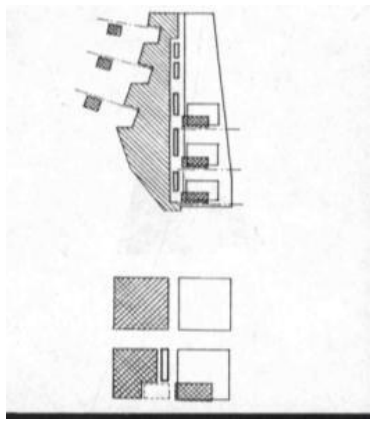


Morrisania Industrial Park

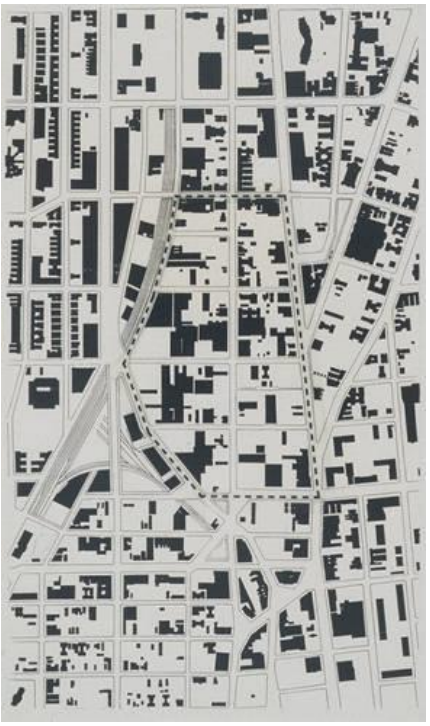
Industrial district strategies: low-rise mixed use

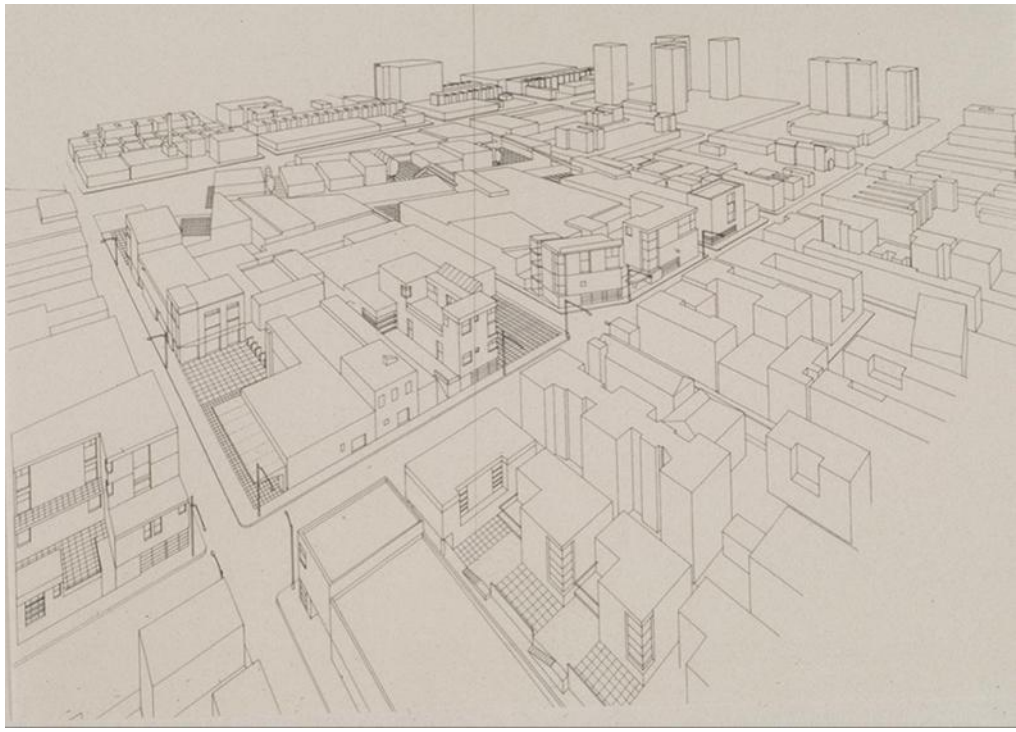




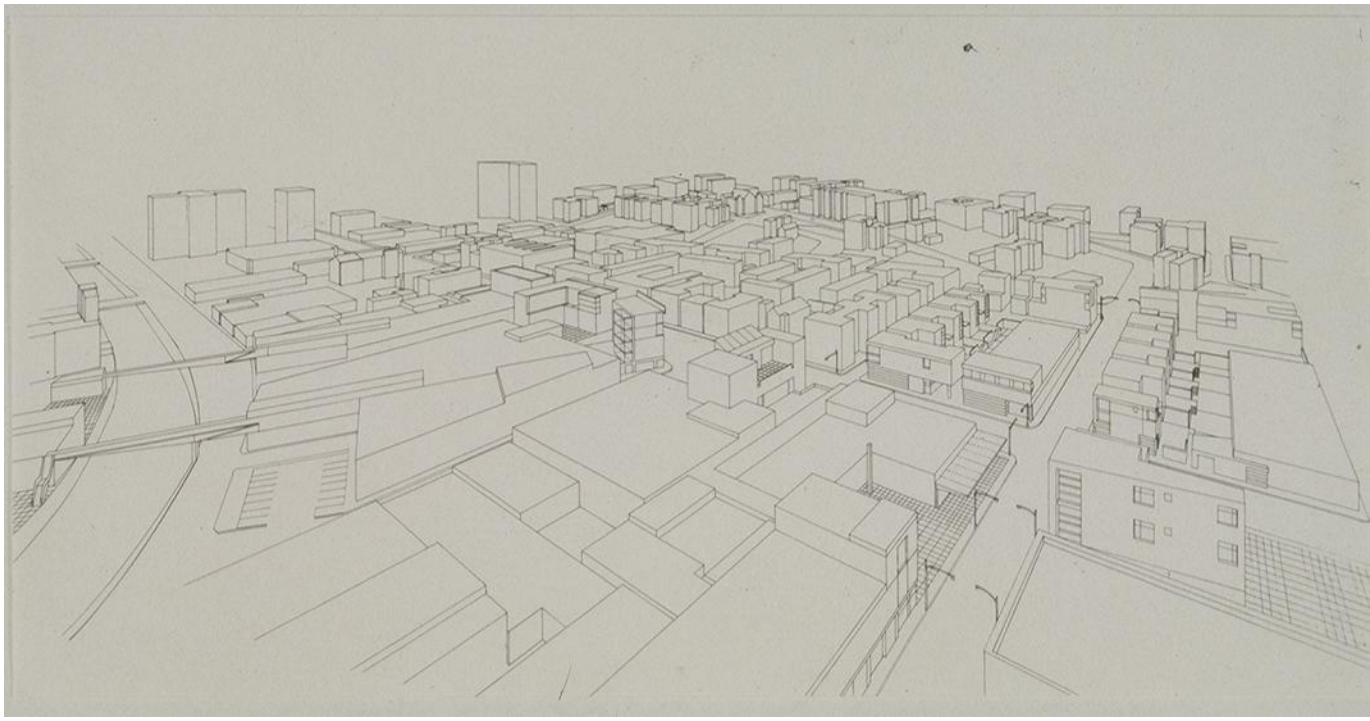


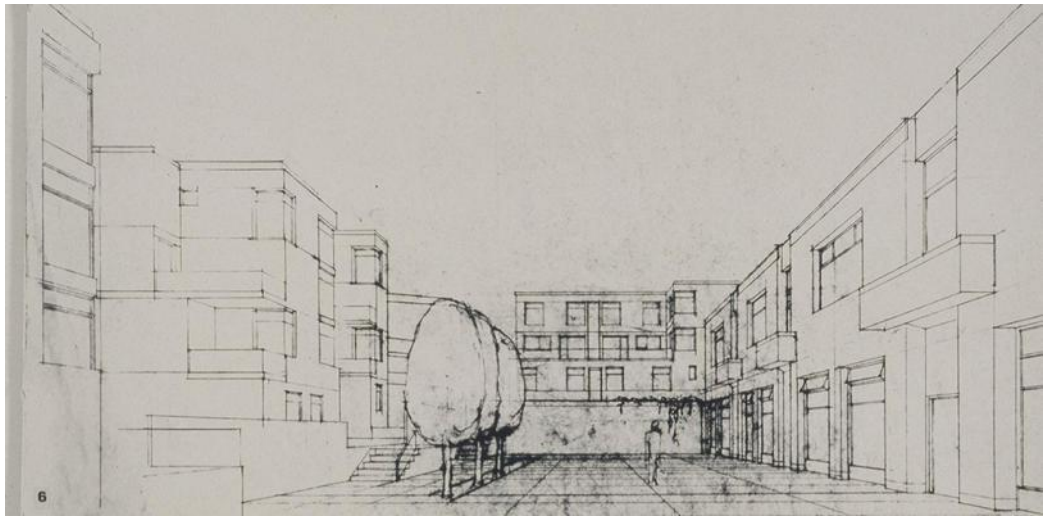
Industrial district strategies: low-rise mixed use





Industrial district strategies: low-rise mixed use





Policy strategies for the low-rise urban industrial district

Policy strategies:

- **Zoning for performance**
- **Know the ecology**
- **Curate the mix**

Industrial district strategies: zoning for performance

1703-4.3. IX Industrial Mixed Use

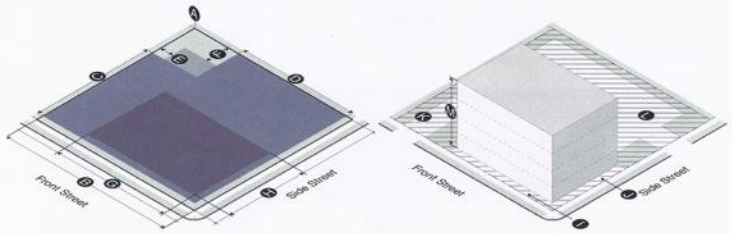
A. Purpose

IX is intended to provide for a variety of light industrial and manufacturing uses while allowing for retail, service and commercial activity and limited housing opportunities. To help ensure that land is reserved for manufacturing and industrial, residential uses are limited to the upper stories. IX is not intended to provide for areas exclusively dominated by light industrial or manufacturing but provide for developments that incorporate commercial uses with housing, retail and service-related activity. IX can serve as a land use transition between heavy industrial areas and mixed use and commercial districts.

B. General

~~Allowed~~ Permitted uses & use standards	Sec. 1703-9
Landscaping and buffering	Sec. 1711-2
Nonconformities	Sec. 1752-7
Parking	Sec. 1711-1
Outdoor storage and display	Sec. 1711-5
Rules of measurement	Sec. 1703-10
Signs	Sec. 1711-3
Site lighting	Sec. 1711-4
~~Use standards~~	~~Sec. 1703-10~~

1703-4.3. IX Industrial Mixed Use



C. Lot

Lot Dimensions		
Lot area	0 SF min.	A
Lot width	0' min.	B

D. Placement

Building and Structure Setbacks		
Front street	5' min. / 85' max	C
Side street	5' min. / 85' max	D
Side interior	10' min.	E
Rear	20' min.	F
Facade within Facade Zone		
Front street	50% min.	G
Side street	20% min.	H

E. Parking

Location of Parking		
Front yard	2 bays max of on-site parking with drive aisle	I
Corner yard	2 bays max of on-site parking with drive aisle	J
Side yard	Permitted	K
Rear yard	Permitted	L

F. Height

Building Height		
All buildings/structures	45' max.	M

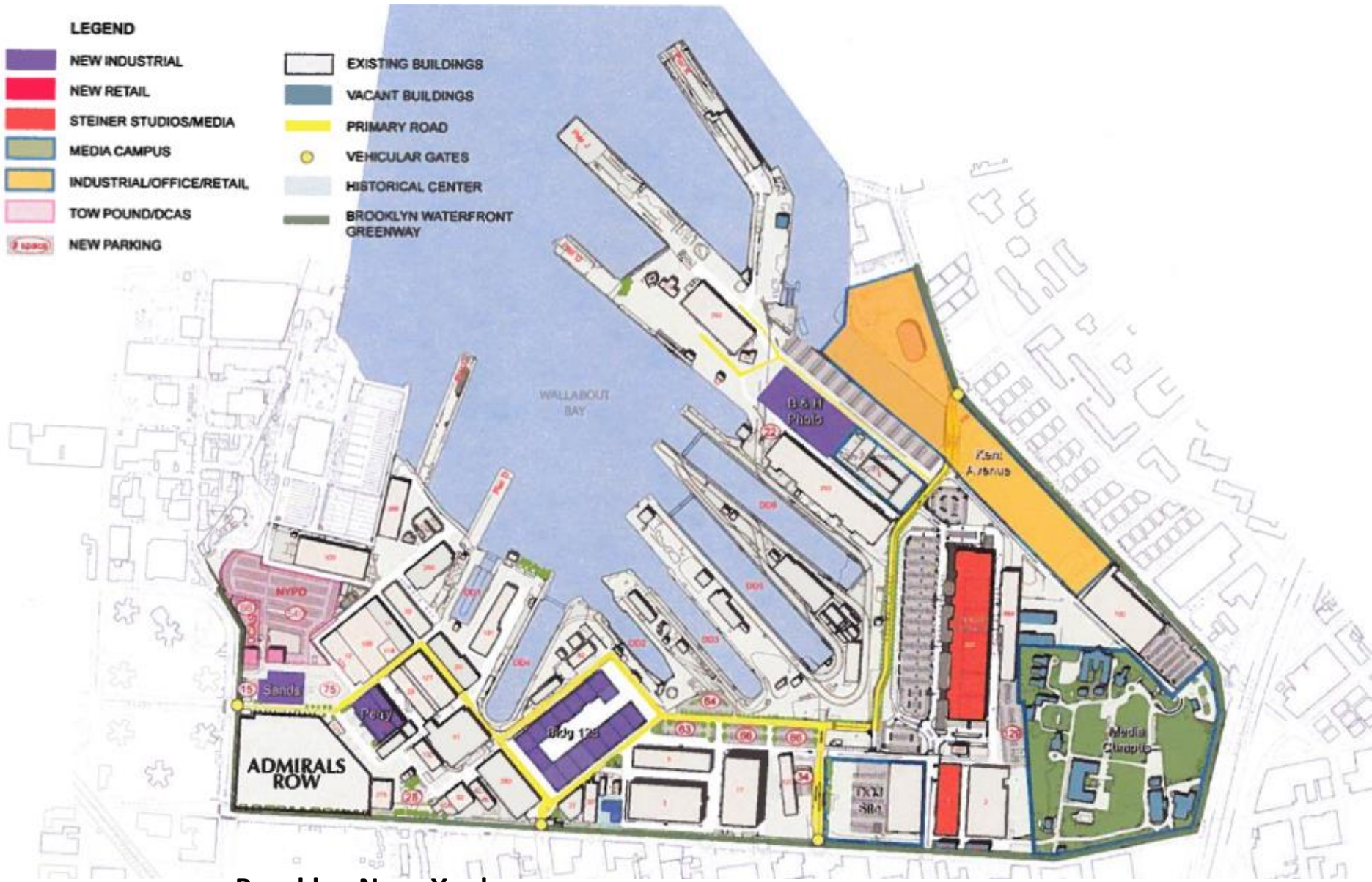
Zoning for performance: Form-based zoning

Industrial district strategies:

- **understand the mix**
- **curate the mix**

Brooklyn Navy Yard

Industrial district strategies: curate the mix



Brooklyn Navy Yard

Industrial district strategies: curate the mix

Greenpoint Manufacturing and Design Center

Industrial district strategies: create the mix

GMDC

BUILDINGS THAT WORK

Greenpoint
Manufacturing
and Design Center

Mission-Driven Entity

- Manage and program the nyc fashion innovation center
- Help designers find factories to produce their lines
- Promote a “nyc-made” brand
- Help enforce deed restrictions on manufacturing space

Lessons Learned for Bogota and the US

Urban Form

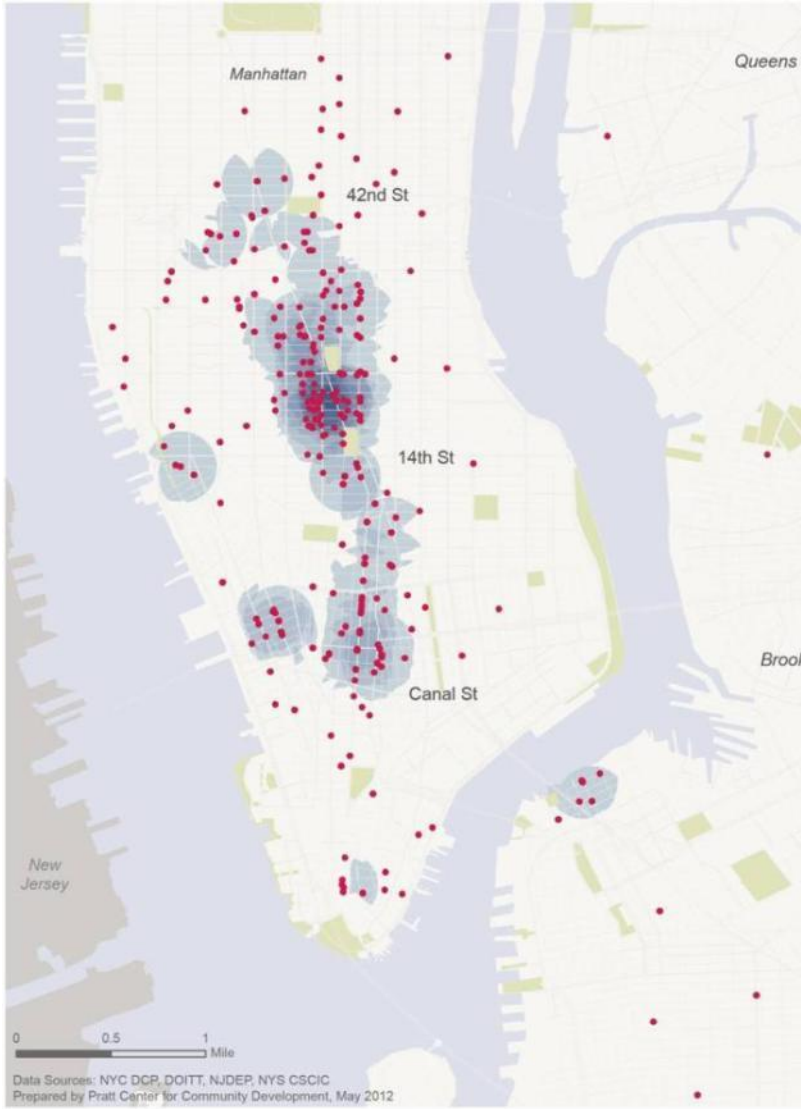
- **Transform the box**
- **Design a new open space network**
- **Re-think the street**
- **Fix the edge, but create new connections to context**
- **Explore new forms of mixed-use**

Policy:

- **Know the ecology**
- **Regulation: Performance-based zoning and design guidelines**
- **Empower a mission-driven entity to “Curate the mix”.**
- **Calibrate national politics to local economy**

Thank You

Emergence of the “innovation district”

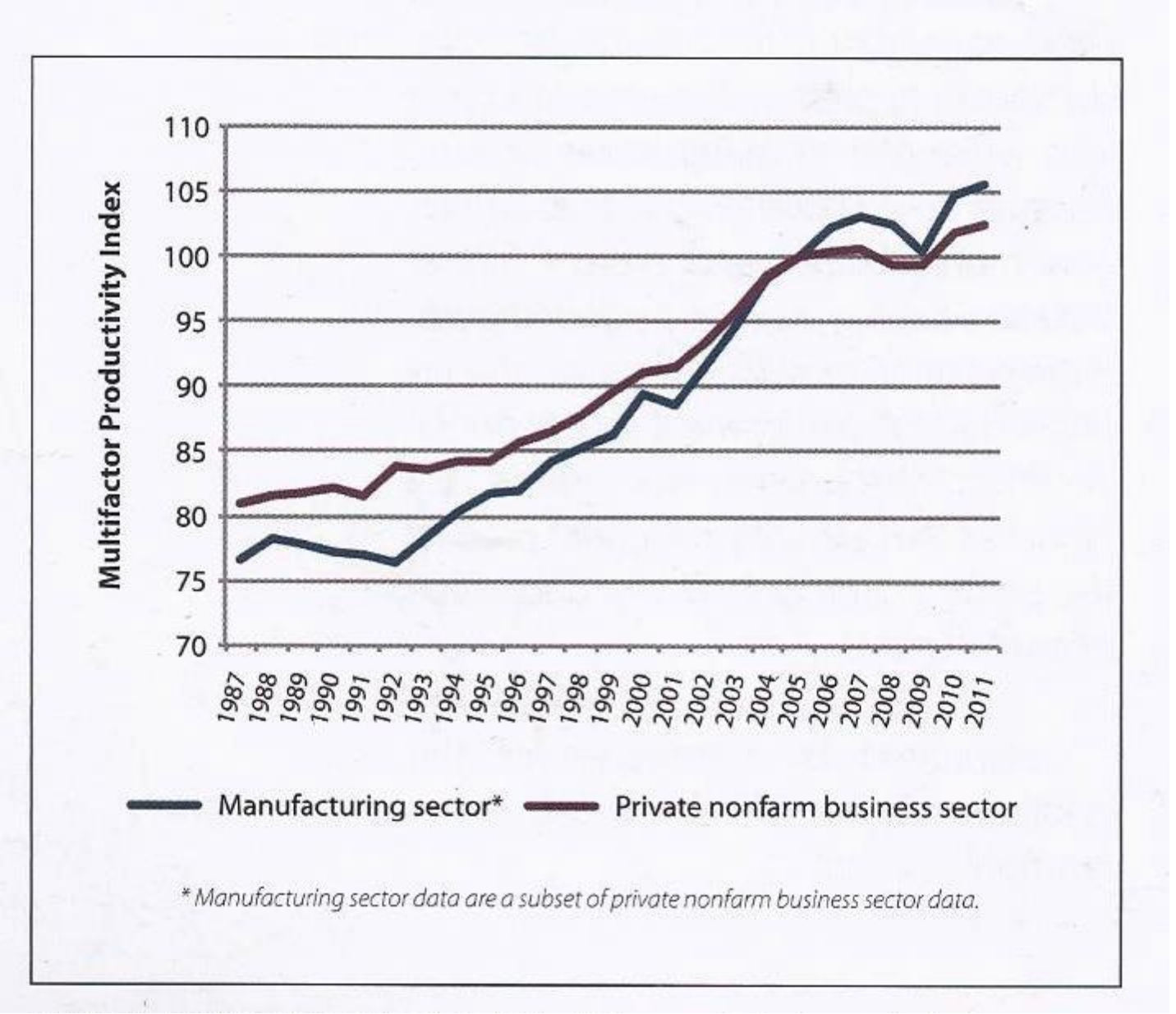


Emergence of the “innovation district”

INNOVATION DISTRICT
BOSTON
thomas m. menino, mayor

where innovators work, play and live in Boston

Urban manufacturing: Intersection of the global and the hyper-local



US Industrial Revival: “Re-shoring” +

Industrial district strategies: low-rise mixed use
The "innovation district" and vertical mixed-use

Bathgate Industrial Park

What is Regional Plan Association: